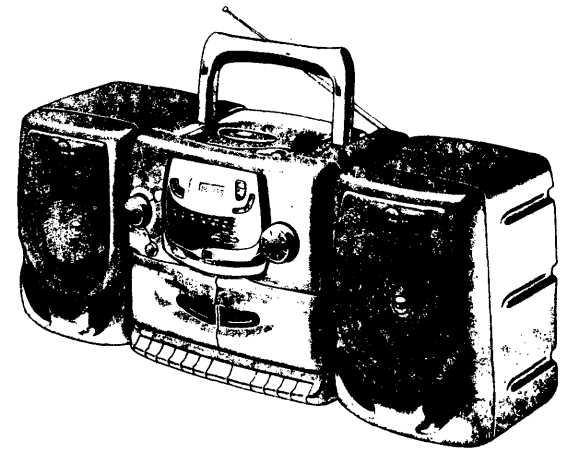
CD Stereo Radio Recorder AZ2600

Service
Service
Service

Volta ao Menu



Service Manual

COMPACT disc DIGITAL AUDIO

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RCD1 3D	

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PHILIPS

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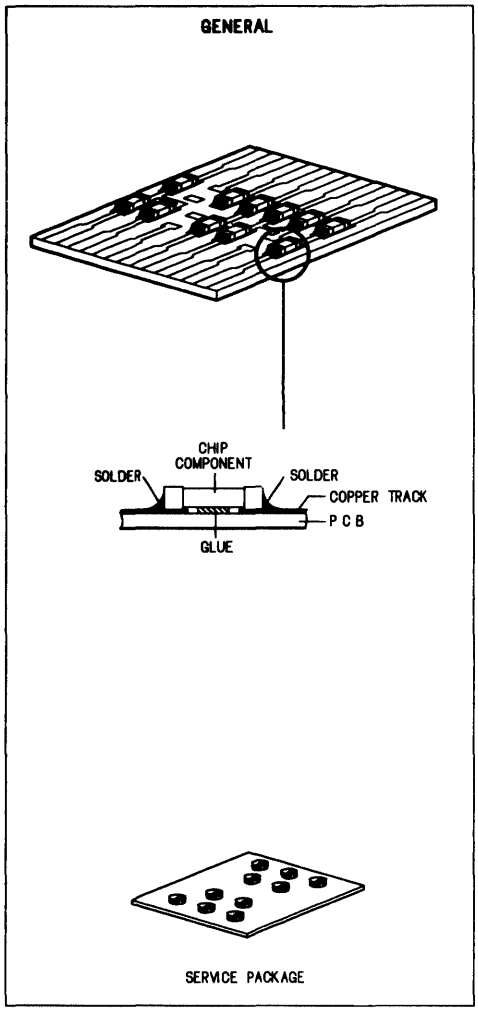
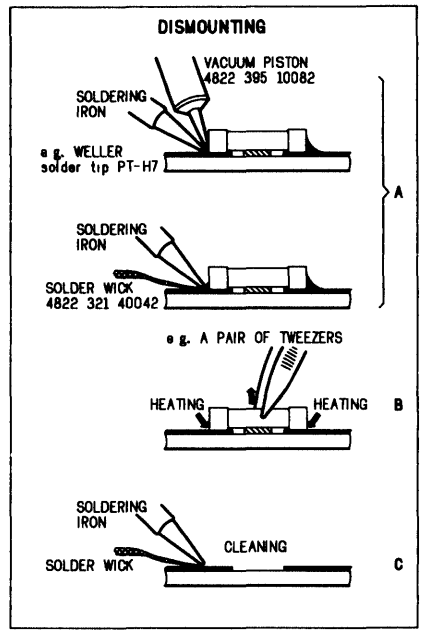
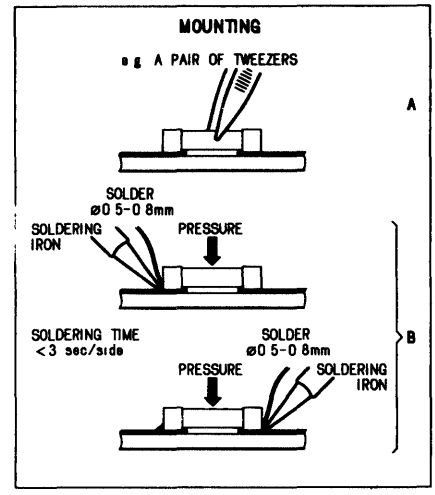
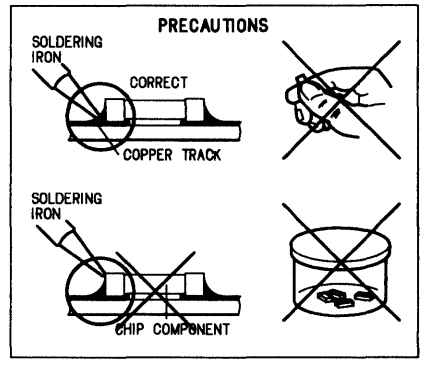
PCS 85 005

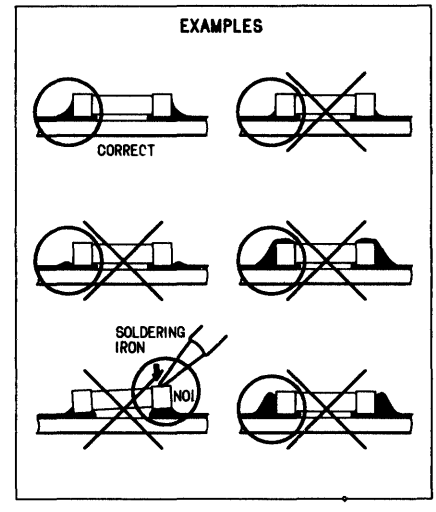
HANDLING CHIP COMPONENTS











(GB) WARNING
All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD) Careless handling during repair can reduce life drastically
When repairing make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance Keep components and tools at this potential

(F) ATTENTION
Tous les IC et beaucoup d autres semi conducteurs sont sensibles aux decharges statiques (ESD) Leur longevite pourrait etre considerablement ecourtee par le fait qu aucune precaution nést prise a leur manipulation
Lors de reparations s assurer de bien etre relie au même potentiel que la masse de l appareil et enfileer le bracelet serti d une resistance de securite
Veiller a ce que les composants ainsi que les outils que l on utilise soient egalement a ce potentiel

ESD

(D) WARNUNG
Alle ICs und viele andere Halbleiter sind empfindlich gegenuber elektrostatischen Entladungen (ESD)
Unsorgfaltige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren
Sorgen Sie dafur, daß sie im Reparaturfall uber ein Puls armband mit Widerstand mit dem Massepotential des Gerates verbunden sind
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential

(NL) WAARSCHUWING
Alle IC s en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD)
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal

(I) AVVERTIMENTO
Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD)
La loro longevita potrebbe essere fortemente ridatta in caso di non osservazione della piu grande cauzione alla loro manipolazione Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delapparecchio tramite un braccialetto a resistenza
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten Der Originalzustand des Gerates darf nicht verandert werden Fur Reparaturen sind Original ersatzteile zu verwenden

(I)
Le norme di sicurezza estigono che l apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati

(F)
Les normes de securite exigent que l appareil soit remis a l etat d origine et que soient utilisees les pieces de rechange identiques a celles specifiees

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast

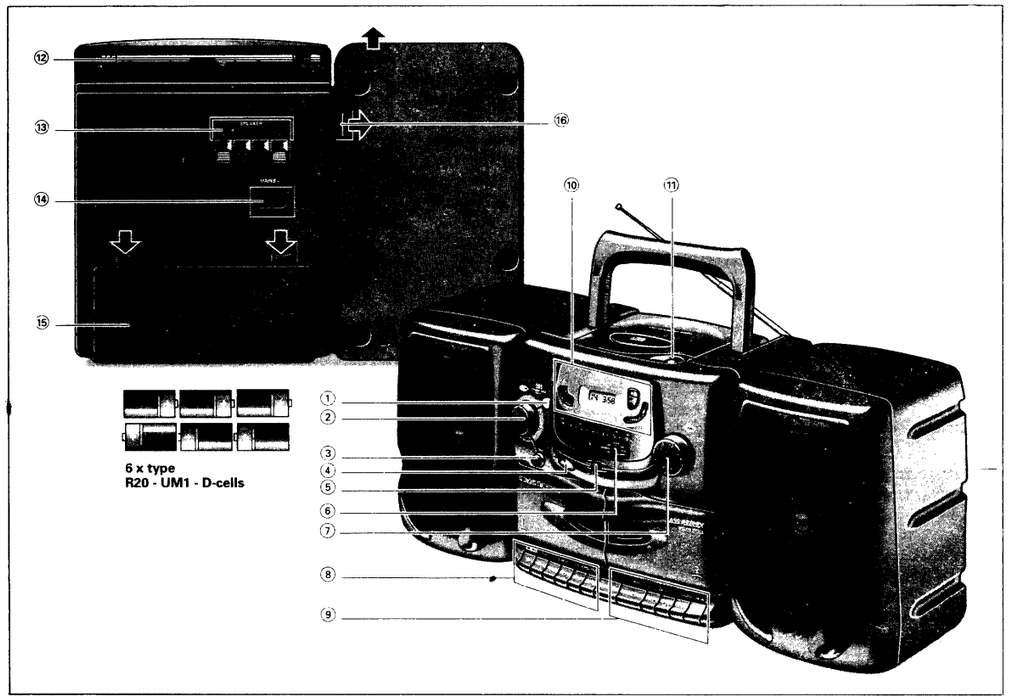
(S) Varning !
Osynlig laserstrålning nar apparaten ar oppnad och sparren ar urkopplad Betrakta ej strålen

(DK) Advarsel !
Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion Undgå udsaettelse for stråling

(SF) Varoitus !
Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina nakymattomalle laserisateilylle Ala katso sateeseen !

(F)
"Pour votre sécurite, ces documents doivent être utilises par des spécialistes agrées, seuls habilites a reparer votre appareil en panne"

CONNECTIONS AND CONTROLS



FRONT PANEL

① **DBB Dynamic Bass Boost** — To increase the bass level
② **VOLUME** — To adjust the volume level
③ **TONE CONTROL** — To adjust the emphasis on high or low tones
④ 🎧 — 3.5 mm headphone socket
⑤ **SOURCE SELECTOR** — To select the source of sound: CD-TUNER-TAPE/OFF and to switch the POWER ON/OFF

TUNER

⑥ **FM-AM** — To select the wave band
⑦ **TUNING** — To tune to stations on AM or FM wave bands

CASSETTE RECORDER

⑧ **DECK 1**
RECORD ● — To start recording
PLAY ▸ — To start playback
◂◂ — To fast rewind the tape
▸▸ — To fast forward the tape
STOP·OPEN ■ ▲ — To stop playback and open the cassette compartment
PAUSE II — To interrupt playback or recording

⑨ **DECK 2**
PLAY ▸ — To start playback
◂◂ — To fast rewind the tape
▸▸ — To fast forward the tape
STOP·OPEN ■ ▲ — To stop playback and open the cassette compartment
PAUSE II — To interrupt playback or recording

CD PLAYER

⑩ **PLAY·PAUSE ▸II** — To start or interrupt CD playback
STOP ■ — To stop playback or erase a program
SEARCH ⏮ ⏭ — To skip or search a passage or a track
MODE — e.g. to SHUFFLE or REPEAT playback

PROGRAM — To program track numbers and to review the program

⑪ **OPEN** — To open the CD door

BACKPANEL

⑫ **TELESCOPIC ANTENNA** — To improve FM reception
⑬ **SPEAKERS** — Speaker terminals
⑭ **AC MAINS** — Jack for power cord
⑮ **BATTERY DOOR** — To open the battery compartment
⑯ **SPEAKER LEVERS** — To unlock the speaker boxes

SPECIFICATIONS

GENERAL

Mains voltage	-/01	120/230V
Mains frequency	/01	60Hz
Battery		9V (R20 x 6)
Power consumption		35W
Dimension (W x H x D)		560 x 187 x 215mm
Weight		4 4Kg

AMPLIFIER

Output power	mains	:	2 x 2.2 W
	battery	:	2 x 2.2 W
Speaker impedance		:	2 x 4 ohm
Frequency response		:	100Hz - 8Khz (-3dB)
DBB	at 100Hz	:	+ 8 ± 2dB

AUDIO/CASSETTE

Tape speed		:	4.76cm/s ± 3%
Wow & flutter		:	< 0.5 WTD DIN
Fast-wind time (C60)		:	< 130 sec.
Frequency response	P/B	:	250 - 6300Hz (± 6dB)
	High speed dubbing	:	125 - 5000Hz
S/N ratio		:	> 40dB
	High speed dubbing	:	> 30dB
Erase ratio		:	> 50dB (w/BPF)
Bias frequency		:	60 ± 10KHz

COMPACT DISC

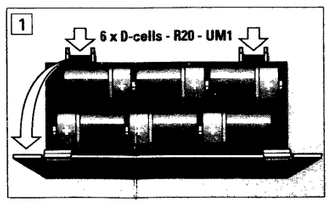
Frequency response	± 3dB	30 - 16KHz
Signal/hiss ratio		> 80dB
Distortion	at 1KHz	< 0 3%
Channel difference	at 1KHz	> 2dB
Channel crosstalk	at 1KHz	> 50dB
		780 ± 20nm
Laser light power		< 0 3mW

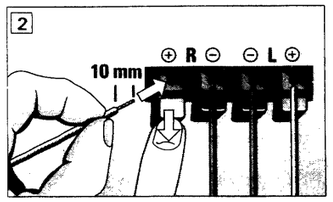
TUNER - FM section

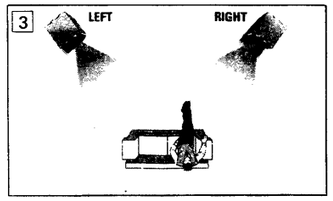
Tuning range		87 5 - 108MHz
IF frequency		10 7MHz
Sensitivity		< 22dBf at 26dB S/N
Selectivity		> 20dB at 600KHz B.W.
IF rejection		> 50dB
Image rejection		> 20dB
AM suppression		> 30dB
Stereo seperation	1KHz	> 20dB

TUNER - AM section

Tuning range	MW (AM)	525 - 1606 5KHz
	IF frequency	468 ± 3KHz
Sensitivity	MW	< 4000µV/m 26dB S/N
Selectivity	MW	> 16dB
IF rejection	MW	> 24dB
Image rejection	MW	> 28dB

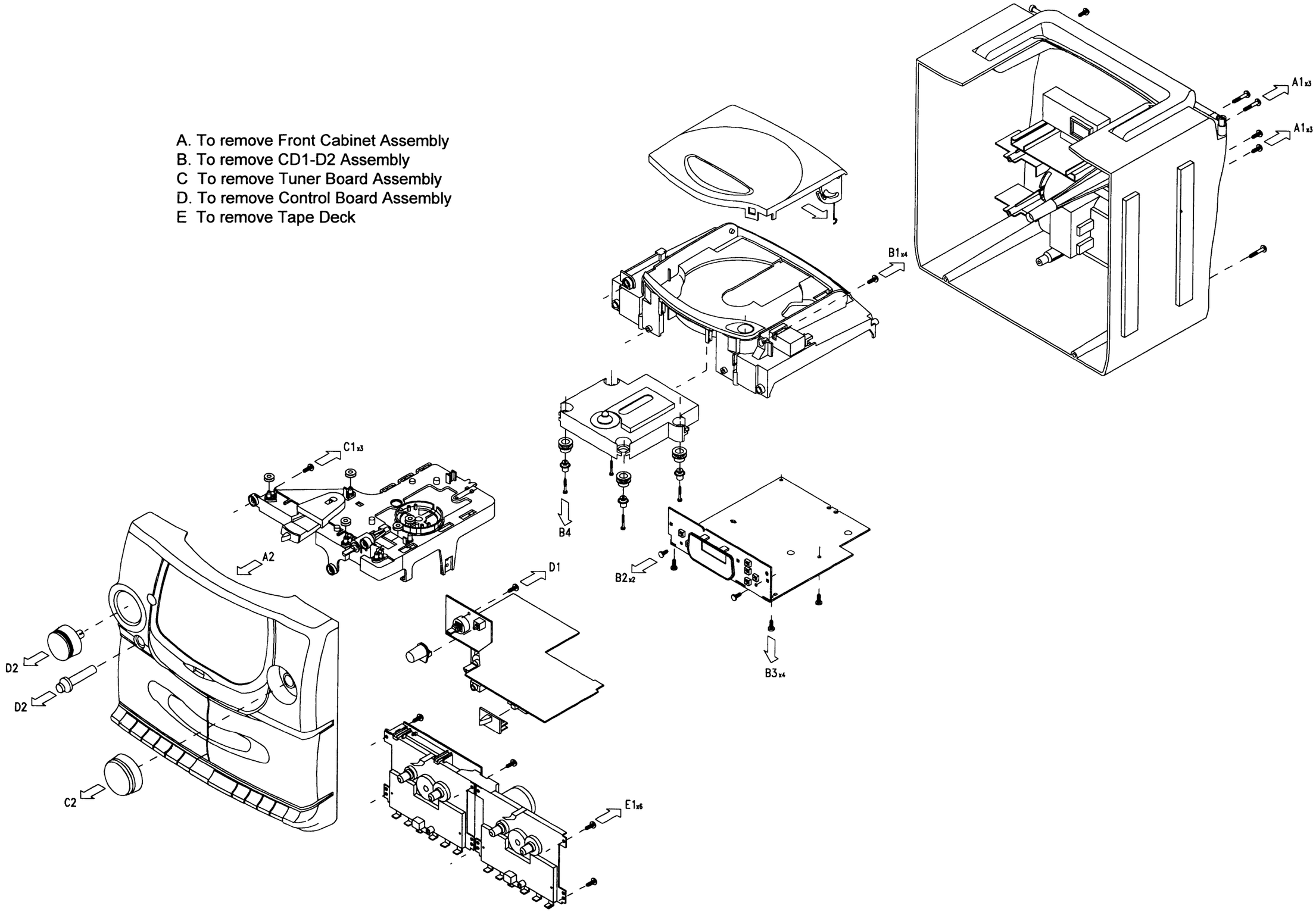




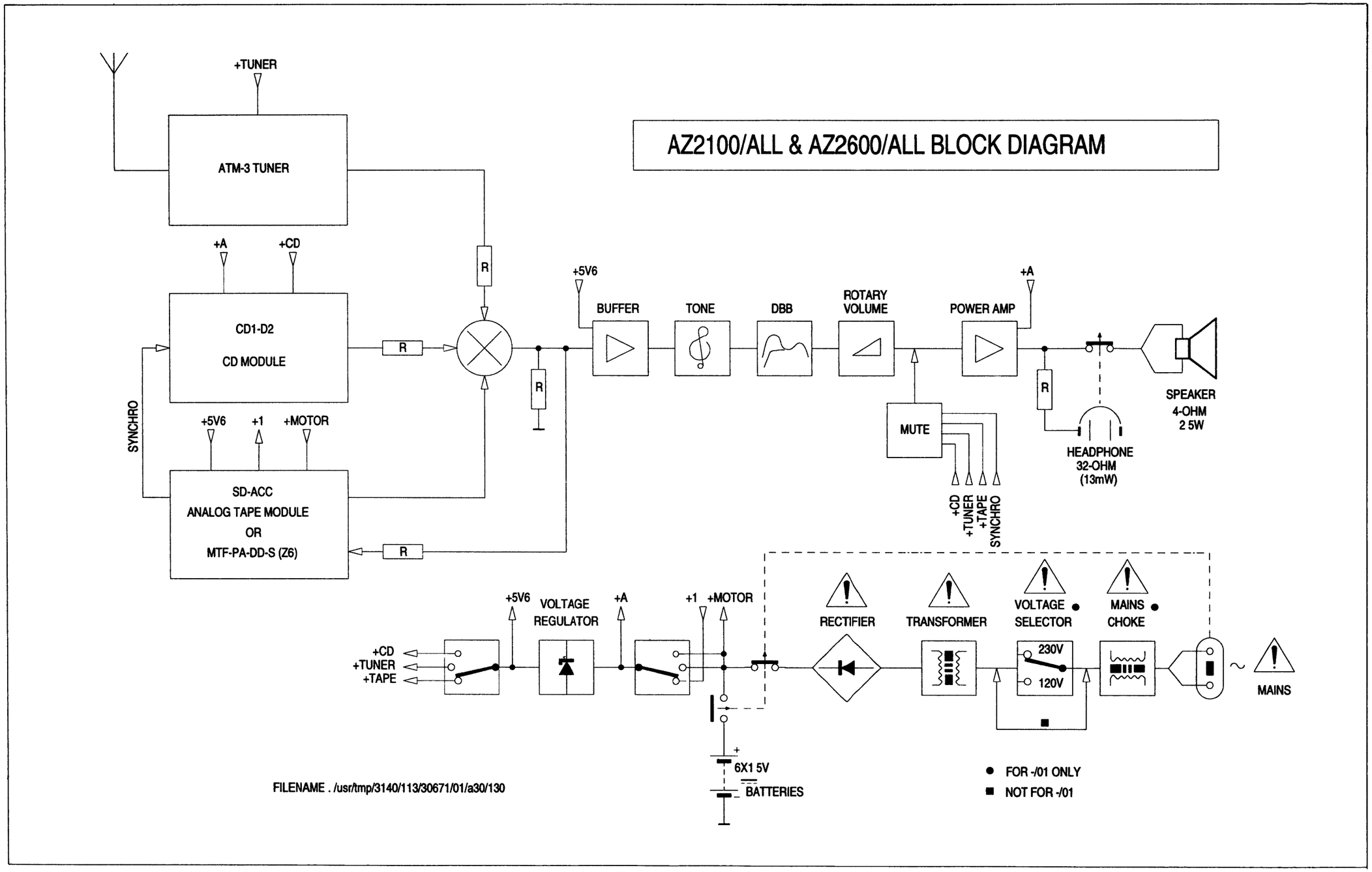


DISASSEMBLY DIAGRAM

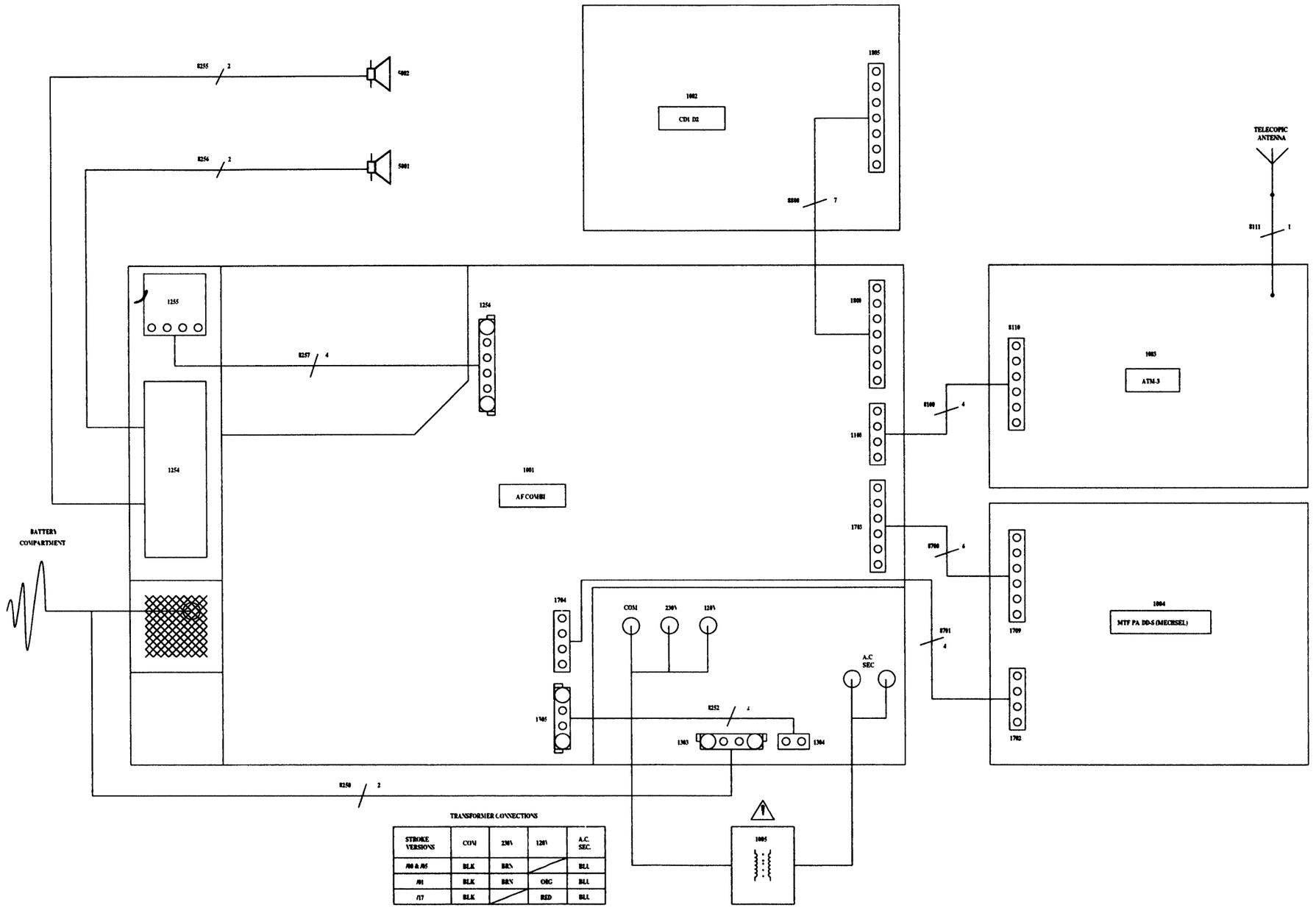
A. To remove Front Cabinet Assembly
B. To remove CD1-D2 Assembly
C To remove Tuner Board Assembly
D. To remove Control Board Assembly
E To remove Tape Deck



BLOCK DIAGRAM

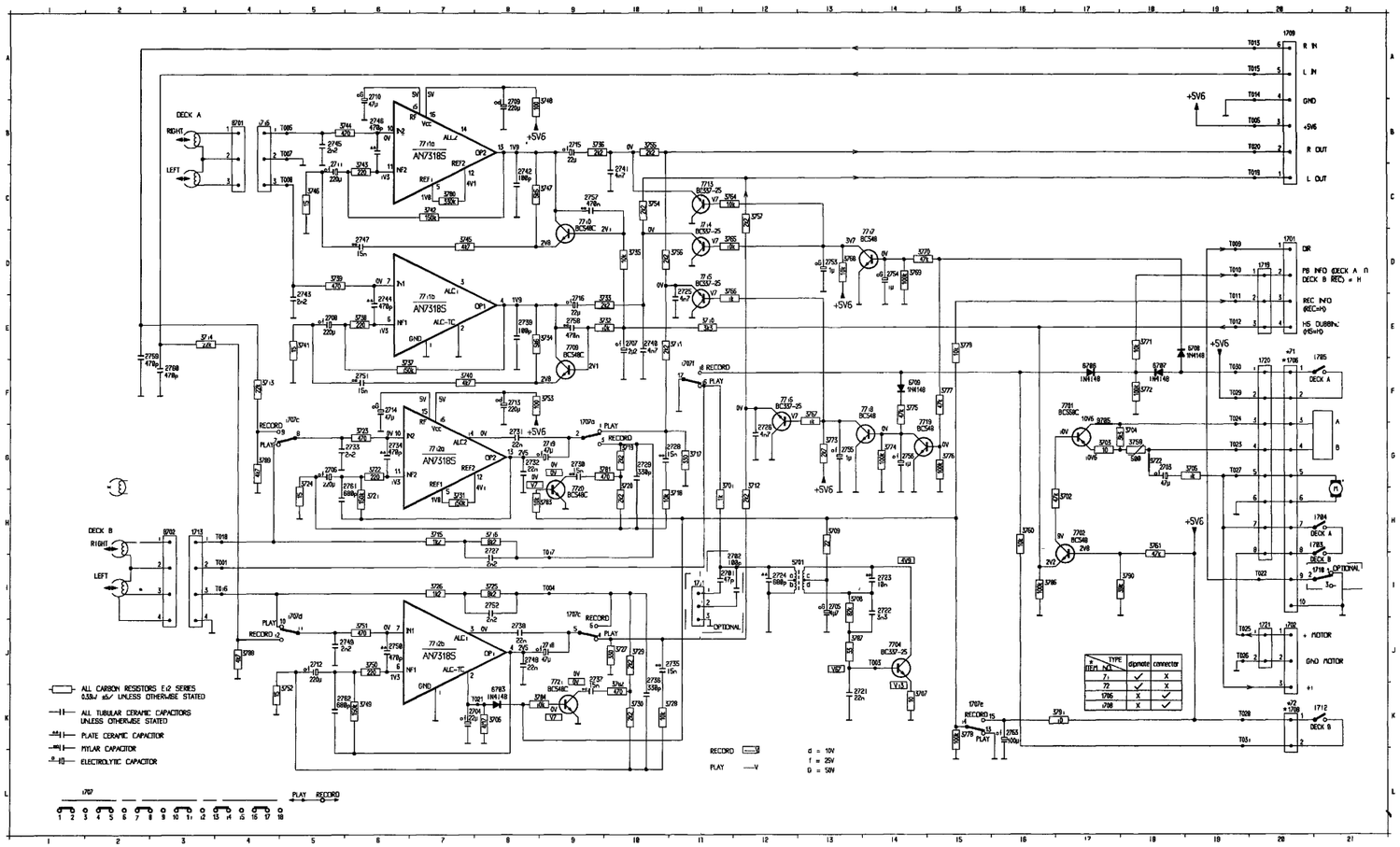


WIRING DIAGRAM

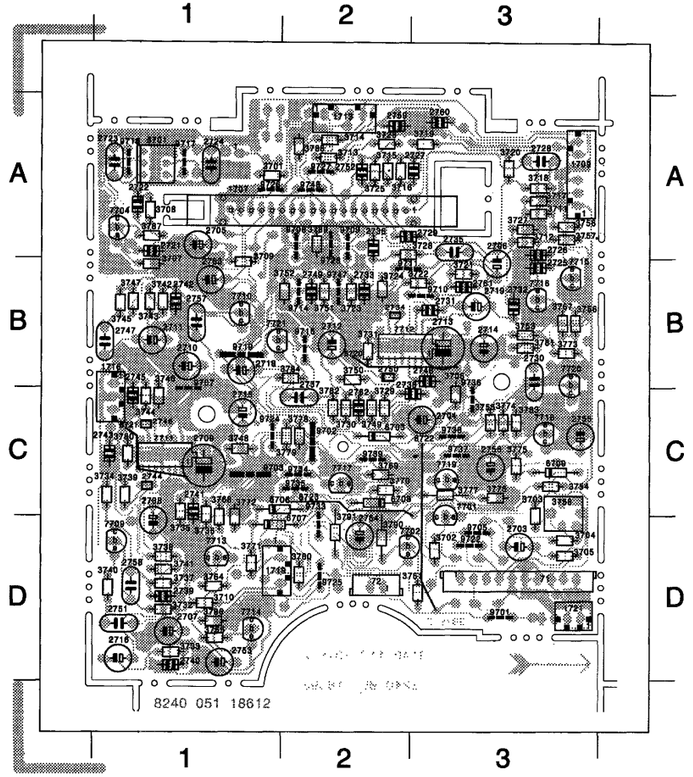


STROKE VERSIONS	COM	230V	120V	A.C. SEC.
/00 & /05	BLK	BRN		BLU
/01	BLK	BRN	ORG	BLU
/17	BLK		RED	BLU

TAPE BOARD - CIRCUIT DIAGRAM



TAPE BOARD - LAYOUT DIAGRAM



71 D3 2710 B1 2727 A3 2742 B1 2757 B1 3709 B1 3724 B2 3739 C1 3754 C3 3772 D1 3788 A2 7711 C1 9706 A2 9728 A2
72 D2 2711 B1 2728 A3 2743 C1 2758 D1 3710 D1 3725 A2 3740 D1 3755 C3 3773 B3 3789 A2 7712 B2 9707 C1 9733 D2
1707 A2 2712 B2 2729 A2 2744 C1 2759 A2 3711 A3 3726 A2 3741 D1 3756 A3 3774 C3 3790 D2 7713 D1 9709 A2 9734 C2
1709 A3 2713 B3 2730 B3 2745 C1 2760 A3 3712 A3 3727 A3 3742 B1 3757 A3 3775 C3 3791 D2 7714 D1 9710 B3 9735 C2
1713 A2 2714 B3 2731 B3 2746 C1 2761 B3 3713 A2 3728 A2 3743 B1 3758 C3 3776 C3 5701 A1 7715 B3 9711 B2 9736 C3
1716 C1 2715 C1 2732 B3 2747 B1 2762 C2 3714 A2 3729 C2 3744 C1 3760 D2 3777 C3 6703 C2 7716 B3 9714 B2 9737 C3
1719 D1 2716 D1 2733 B2 2748 B3 2763 B1 3715 A2 3730 C2 3745 B1 3761 D3 3778 C2 6706 C1 7717 C2 9716 B2 9738 C3
1721 D3 2718 B1 2734 B2 2749 B2 3701 A1 3716 A2 3731 B2 3746 C1 3764 D1 3779 C2 6707 D1 7718 C3 9717 A1 9739 C2
2703 D3 2719 B3 2735 A3 2750 B2 3702 D3 3717 A3 3732 D1 3747 B1 3765 D1 3780 C1 6708 C2 7719 C3 9718 A1 9747 B2
2704 C3 2721 A1 2736 A2 2751 D1 3703 D3 3718 A3 3733 D1 3748 C1 3766 B3 3781 B3 6709 C3 7720 B3 9719 B1 9748 A2
2705 A1 2722 A1 2737 C2 2752 A2 3704 D3 3719 A3 3734 C1 3749 C2 3767 B3 3782 C2 7701 D3 7721 B1 9722 D3
2708 B3 2723 A1 2738 C3 2753 D1 3705 D3 3720 A3 3735 C1 3750 B2 3768 D1 3783 C3 7702 D2 9701 D3 9724 C1
2707 D1 2724 A1 2739 D1 2754 D2 3706 C3 3721 B3 3736 C1 3751 B2 3769 C2 3784 B2 7704 A1 9702 C2 9725 D2
2708 D1 2725 B3 2740 D1 2755 C3 3707 B1 3722 B3 3737 D1 3752 B2 3770 C2 3786 D1 7709 D1 9703 C1 9726 A1
2709 C1 2726 A3 2741 C1 2756 C3 3708 A1 3723 B2 3738 D1 3753 B3 3771 D1 3787 A1 7710 B1 9705 D3 9727 A2

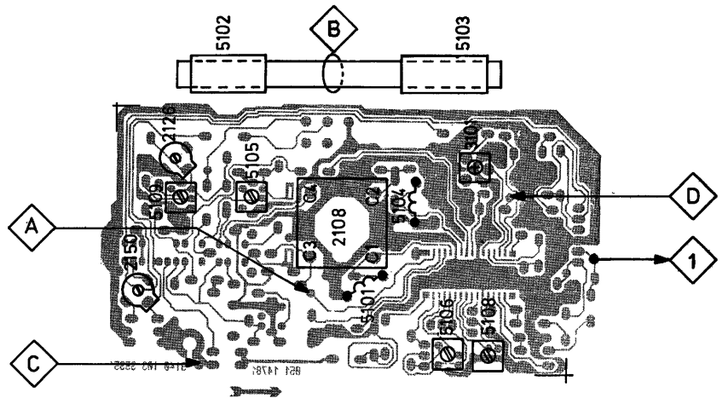
RADIO ALIGNMENT

SK....	FREQUENCY	I/P	VARICON	ADJUST	O/P	SCOPE/METER
AM IF						
AM or MW	468 kHz	A	Min	5106 5108	1	Max
AM RF						
MW *	512 kHz 1635 kHz	B	Max. Min.	5105 C4	H/P	Max
for –/00/01/05	550 kHz		550 kHz	L2	Jack	Max
(see Fig. 3)	1500 kHz		1500 kHz	C3		
AM *	520 kHz 1730 kHz	B	Max. Min	5105 C4	H/P	Max
for –/17	550 kHz		550 kHz	L2	Jack	Max
(see Fig 3)	1500 kHz		1500 kHz	C3		
LW *	147 kHz 291 kHz	B	Max. Min	5109 2126	H/P	Max
for –/00/05	155 kHz		155 kHz	5103	Jack	Max
(see Fig 3)	270 kHz		270 kHz	2150		
FM IF						
FM #	10 7 MHz					Symmetrical
FM RF						
FM#	87.35 MHz 108 25 MHz	C	Max. Min.	5104 C2	H/P	Max
(see Fig 4 & 5)	88 MHz 106 MHz		88 MHz 106 MHz	5101 C1	Jack	Max
FM#	64 7 MHz 108 25 MHz	C	Max Min	5104 C2	H/P	Max
for –/14	68 MHz		68 MHz	5101	Jack	Max
(see Fig 4 & 5)	106 MHz		106 MHz	C1		
STEREO DECODER						
FM#	98 MHz	C	98 MHz	3101	D	152 ± 1 kHz
						Repeat

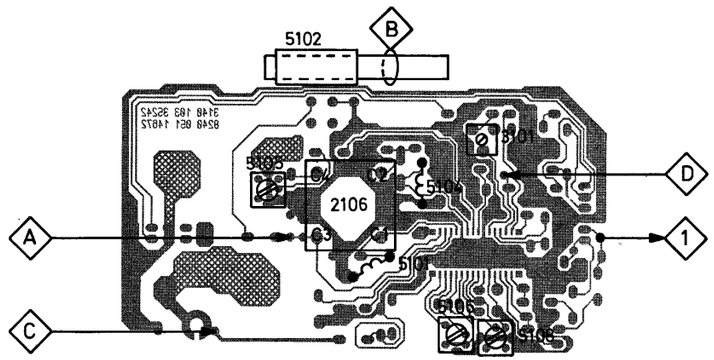
* Mod 1 kHz 30%
\# via 10 nF + 15 E

"Bei notwendigem Abgleich ist das Gerät auf die gesetzlich vorgeschriebenen Eckfrequenzen abzugleichen"

ALIGNMENT LOCATION (-/00/05)



ALIGNMENT LOCATION (-/01/17)



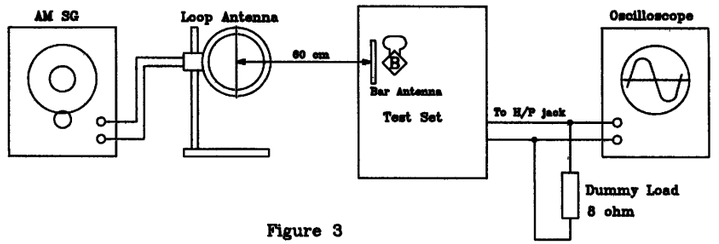


Figure 3

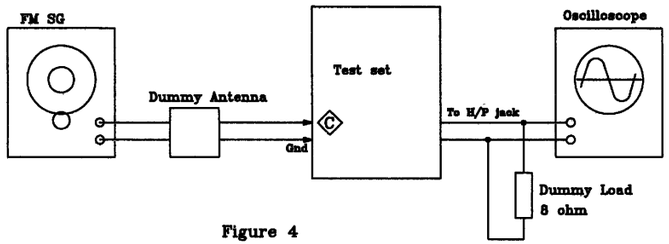


Figure 4

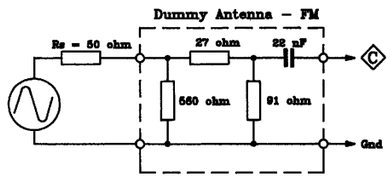
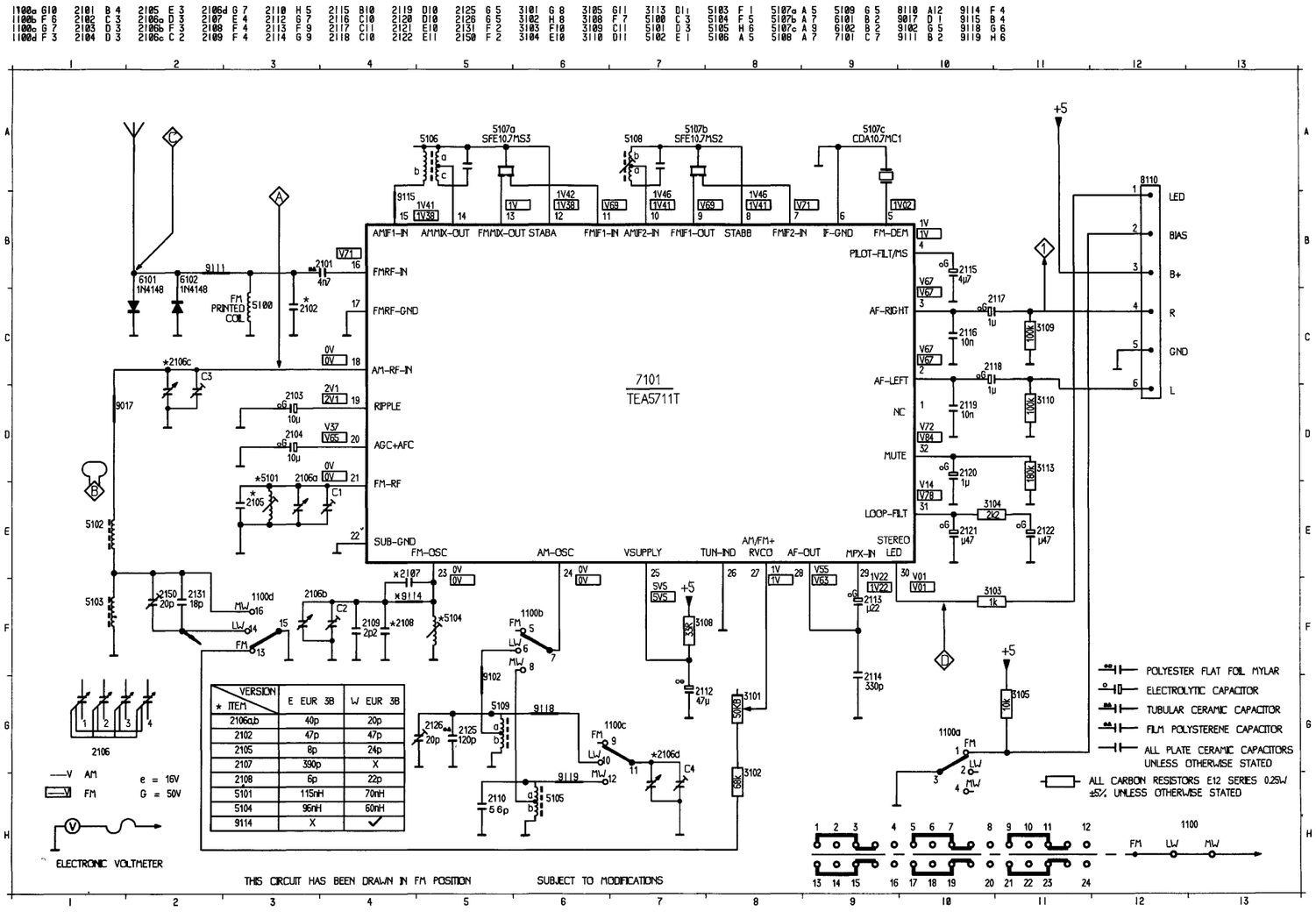


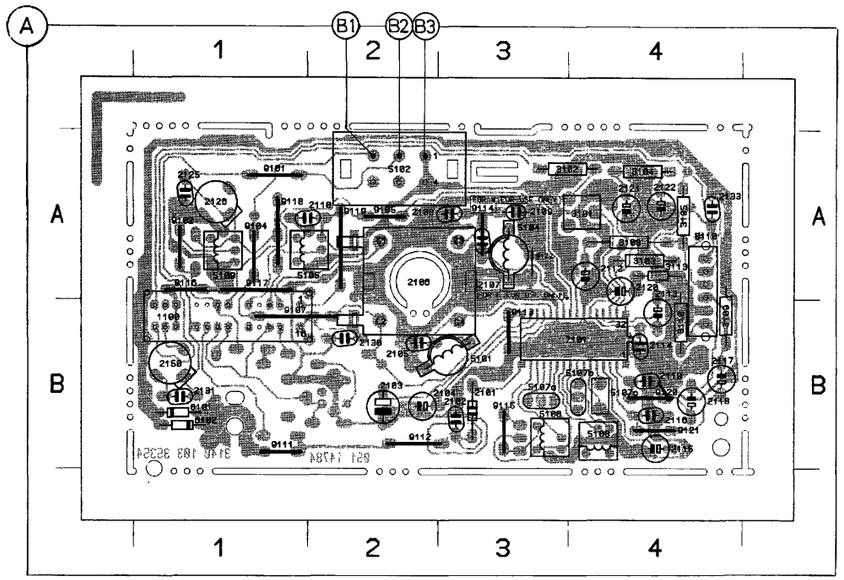
Fig. 5

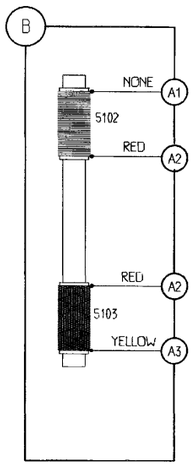
TUNER BOARD (/00/05/14) - CIRCUIT DIAGRAM



VERSION / * ITEM	E EUR 3B	W EUR 3B
2106a,b	40p	20p
2102	47p	47p
2105	8p	24p
2107	390p	X
2108	6p	22p
5101	115nH	70nH
5104	96nH	60nH
9114	X	✓

1100a G10 2101 B 4 2105 E 3 2106d G 7 2110 H 5 2115 B10 2119 D10 2125 G 5 3101 G 8 3105 G11 3113 D11 5103 F 1 5107a A 5 5109 G 5 8110 A12 9114 F 4
1100b F 6 2102 C 3 2106a D 3 2107 E 4 2112 G 7 2116 C10 2120 D10 2126 G 5 3102 H 8 3108 F 7 5100 C 3 5104 F 5 5107b A 7 6101 B 2 9017 D 1 9115 B 4
1100c B 7 2103 D 3 2106b F 3 2108 F 4 2113 F 9 2117 C11 2121 E10 2131 F 2 3103 F10 3109 C11 5101 D 3 5105 H 6 5107c A 9 6102 B 2 9102 G 5 9118 G 6
1100d F 3 2104 D 3 2106c C 2 2109 F 4 2114 G 9 2118 C10 2122 E11 2150 F 2 3104 E10 3110 D11 5102 E 1 5108 A 5 5108 A 7 7101 C 7 9111 B 2 9119 H 6

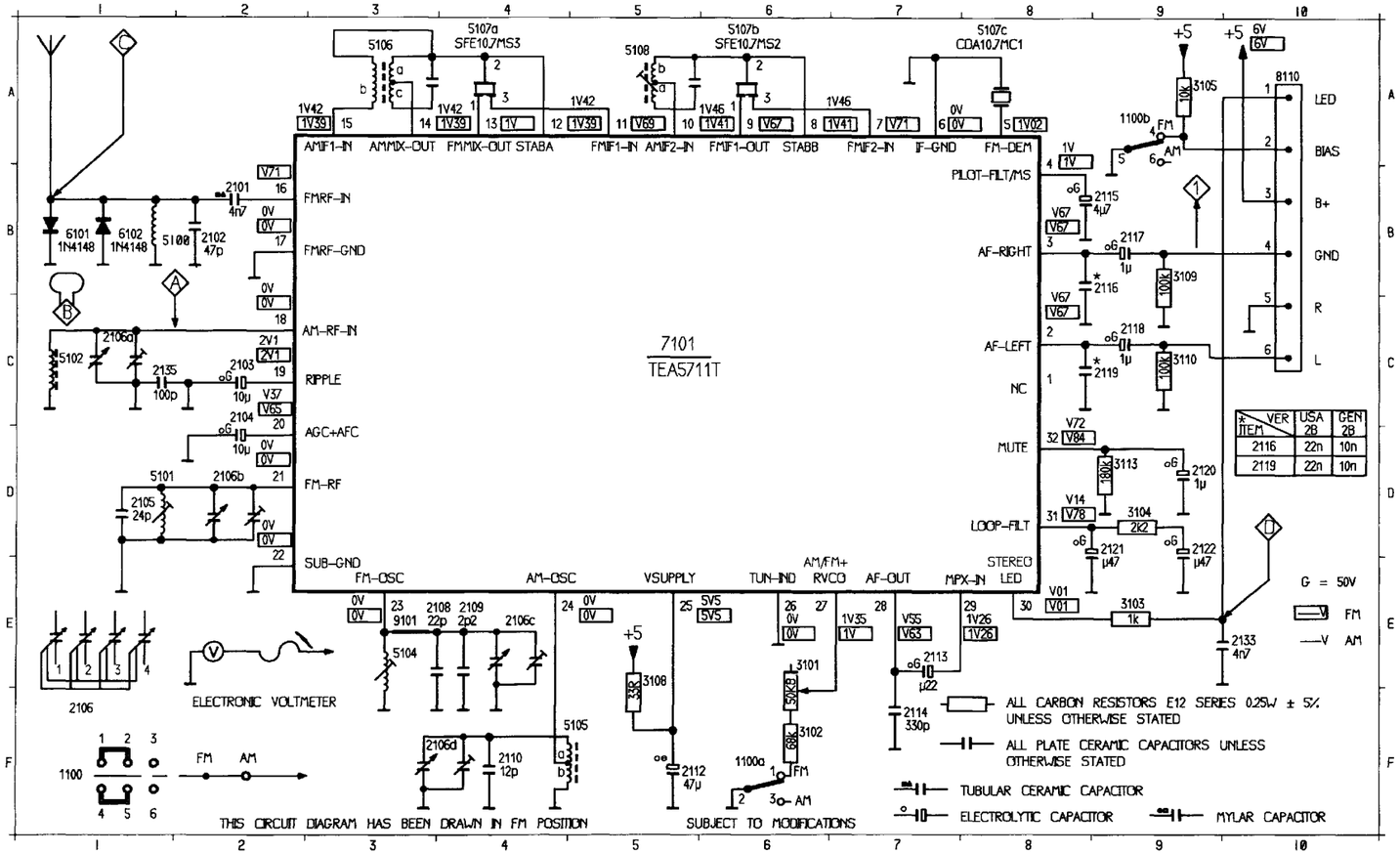




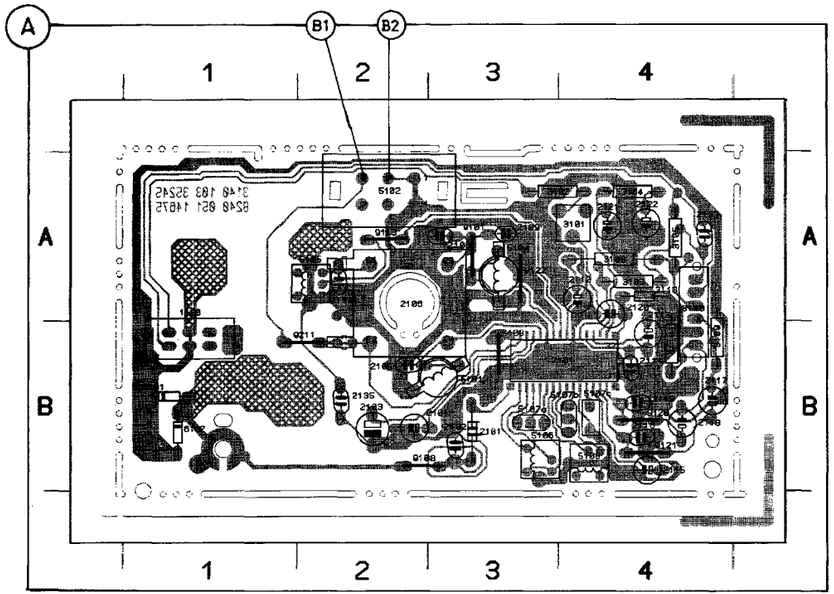
1100 B 1 3113 A 4
2101 B 3 5101 B 3
2102 B 3 5102 A 2
2103 B 2 5104 A 3
2104 B 2 5105 A 2
2105 B 2 5106 B 3
2106 A 2 5107a B 3
2107 A 3 5107b B 4
2108 A 3 5107c B 4
2109 A 3 5108 B 4
2110 A 2 5109 A 1
2112 A 4 6101 B 1
2113 B 4 6102 B 1
2114 B 4 7101 B 4
2115 B 4 8110 A 4
2116 B 4 9101 A 1
2117 B 4 9102 A 1
2118 B 4 9104 A 1
2119 B 4 9105 A 2
2120 A 4 9107 B 1
2121 A 4 9111 B 1
2122 A 4 9112 B 2
2125 A 1 9113 B 3
2126 A 1 9114 A 3
2130 B 2 9115 B 3
2131 B 1 9116 A 1
2133 A 4 9117 A 1
2150 B 1 9118 A 1
3101 A 4 9119 A 2
3102 A 3 9120 B 4
3103 A 4 9121 B 4
3104 A 4 9122 A 3
3105 A 4
3106 A 4
3109 B 4
3110 B 4

TUNER BOARD (/01/17) - CIRCUIT DIAGRAM

1100a	F 6	2103	C 2	2106b	D 2	2109	E 4	2114	F 7	2118	C 9	2122	D 9	3102	F 6	3108	E 5	5100	B 2	5105	F 5	5107c	A 8	7101	C 5
1100b	A 9	2104	C 2	2106c	E 4	2110	F 4	2115	B 9	2119	C 9	2133	E10	3103	E 9	3109	B 9	5101	D 1	5106	A 3	5108	A 5	8110	A10
2101	B 2	2105	D 1	2106d	F 4	2112	F 5	2116	B 9	2120	D 9	2135	C 1	3104	D 9	3110	C 9	5102	C 1	5107a	A 4	6101	B 1	9101	E 3
2102	B 2	2106a	C 1	2108	E 4	2113	E 7	2117	B 9	2121	D 9	3101	E 6	3105	A 9	3113	D 9	5104	E 3	5107b	A 6	6102	B 1		



ITEM \ VER	USA 2B	GEN 2B
2116	22n	10n
2119	22n	10n



1100a B 1 5106 B 3
2101 B 3 5107a B 3
2102 B 3 5107b B 4
2103 B 2 5107c B 4
2104 B 2 5108 B 4
2105 B 2 6101 B 1
2106 A 2 6102 B 1
2108 A 3 7101 B 4
2109 A 3 8110 A 4
2110 A 2 9101 A 3
2112 A 4 9106 B 2
2113 B 4 9108 B 3
2114 B 4 9113 A 2
2115 B 4 9120 B 4
2116 B 4 9121 B 4
2117 B 4 9122 A 3
2118 B 4 9211 B 2
2119 B 4
2120 A 4
2121 A 4
2122 A 4
2133 A 4
2135 B 2
3101 A 4
3102 A 3
3103 A 4
3104 A 4
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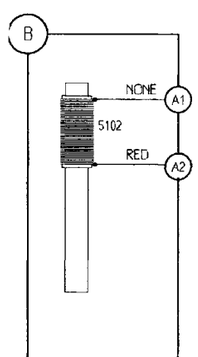
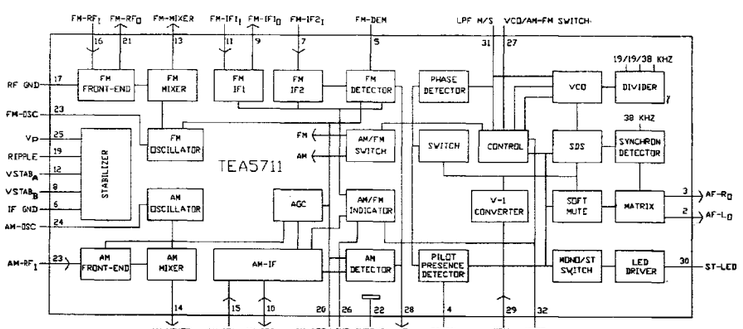
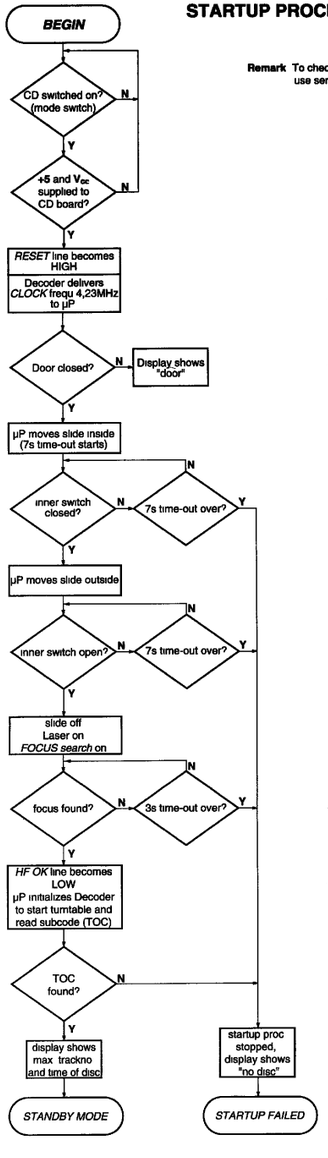
3108 A 4
3109 B 4
3110 B 4
3113 A 4
5101 B 3
5102 A 2
5104 A 3
5105 A 2





STARTUP PROCEDURE


BEGIN
CD switched on? (mode switch)
+5 and Vcc supplied to CD board?
RESET line becomes HIGH
Decoder delivers CLOCK frequ 4,23MHz to µP
Door closed?
Display shows "door"
µP moves slide inside (7s time-out starts)
inner switch closed?
7s time-out over?
µP moves slide outside
inner switch open?
7s time-out over?
slide off
Laser on
FOCUS search on
focus found?
3s time-out over?
HF OK line becomes LOW
µP initializes Decoder to start turntable and read subcode (TOC)
TOC found?
display shows max trackno and time of disc
startup proc stopped, display shows "no disc"
STANDBY MODE
STARTUP FAILED

Remark To check focus servo, slide servo, track servo and turntable use service test program

check +5 and V_{cc} on connector 1805

check - time constant of reset circuit
- Pin 17,18 of µP 7901 HIGH ?
- Pin 28 of decoder 7851 HIGH?

- check - Pin 10 of µP 7901

- check - Pin 21 of µP 7901 HIGH?
- door swtch 1920
- Pin 24 of µP 7901 LOW?

Pin 24 of µP 7901 switched to REF level (=Slide off)
LASER I line switched to HIGH level (= Laser on)

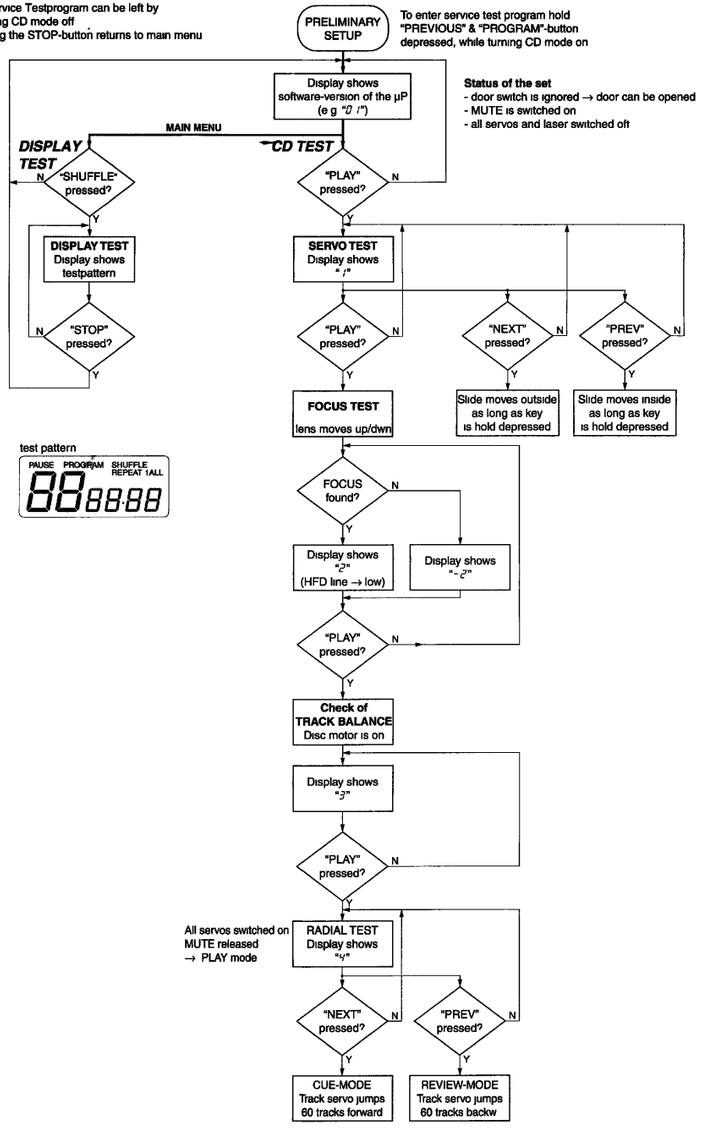
LASER II line switched to LOW level
→ comparator 7802 switches output to HIGH level
→ switches 7804 close and *TRIANGLE GENERATOR* is switched on
FOCUS REGULATOR 7803 switched off

- check - Laser light on ? - Check *LASER CONTROL*
- Focus Servo

- check - Motor control pins 22 and 23 of decoder 7851 and Disc Motor driver circuit
- HF Signal

SERVICE TESTPROGRAM /FLOW CHART

The Service Testprogram can be left by switching CD mode off
Pressing the STOP-button returns to main menu


PRELIMINARY SETUP
To enter service test program hold "PREVIOUS" & "PROGRAM"-button depressed, while turning CD mode on
Display shows software-version of the µP (e g "0 /")
Status of the set
- door switch is ignored → door can be opened
- MUTE is switched on
- all servos and laser switched off
MAIN MENU
DISPLAY TEST
CD TEST
"SHUFFLE" pressed?
"PLAY" pressed?
DISPLAY TEST Display shows testpattern
"STOP" pressed?
SERVO TEST Display shows "-/"
"PLAY" pressed?
"NEXT" pressed?
"PREV" pressed?
Slide moves outside as long as key is hold depressed
Slide moves inside as long as key is hold depressed
FOCUS TEST lens moves up/dwn
test pattern
PAUSE PROGRAM SHUFFLE REPEAT 1 ALL
FOCUS found?
Display shows "2" (HFD line → low)
Display shows "-2"
"PLAY" pressed?
Check of TRACK BALANCE Disc motor is on
Display shows "3"
"PLAY" pressed?
All servos switched on MUTE released → PLAY mode
RADIAL TEST Display shows "4"
"NEXT" pressed?
"PREV" pressed?
CUE-MODE Track servo jumps 60 tracks forward
REVIEW-MODE Track servo jumps 60 tracks backw

PROGRAMA DE TESTE DE SERVIÇO/ DESCRIÇÃO

1. ARRANJO PRELIMINAR

- Para entrar no programa de teste de serviço mantenha pressionadas as teclas "PREVIOUS" e "PROGRAM" enquanto LIGAR A ENERGIA.
- O display apresenta a versão do software do microprocessador embutido (p ex *"01"*)
- O programa está agora no menu principal vários testes podem ser dados entrada apertando-se os botões correspondentes (videfluxograma ou descrição detalhada de programas de teste a seguir)

Estado do aparelho:
- é ignorado o interruptor da tampa pode ser aberta para verificações adicionais
- todos os servos e o laser são desligados
- o MUTE está ligado

- Para sair do programa de teste de serviço DESLIGUE o modo CD ou a ENERGIA Ao ser pressionado, o botão STOP volta ao menu PRINCIPAL.

2. TESTE DO DISPLAY

Finalidade: Verificar o acionador interno do display do µP e os segmentos e bandeiras do display

- Para dar entrada do deste do display inicie o programa de teste de serviço e pressione o botão "MISTURAR"
- O display apresenta todos os segmentos e bandeiras como padrão de teste
- Para sair do teste do display e voltar para o menu principal pressione o botão "STOP"

3. TESTE DE CD

3.1. TESTE DE SERVO

Finalidade: Verificar o movimento do elemento deslizante

- Para dar entrada do teste de servo inicie o programa de teste de serviço e pressione o botão "PLAY"
- O display apresenta "1"
- Para mover o elemento deslizante para fora pressione o botão "NEXT".
- Para mover o elemento deslizante para dentro pressione o botão "PREV"
- Para dar entrada do teste de foco pressione o botão "PLAY", para sair do teste de servo e voltar para o menu principal pressione o botão "STOP"

3.2. TESTE DE FOCO

Finalidade: Verificar o movimento da lente e a funçãodo controle de servo do foco

- A alça do foco do servo é ligada e o aparelho começa a procurar o foco Se o foco estiver o k , o display apresenta *"2"*, caso contráno apresenta *"-2"*
- Quando o disco é girado manualmente é audível o "ruído de foco"
- Se o foco estiver o k., pode ser dado entrada do teste do motor do disco pressionando o botão "PLAY", para sair do teste de foco e voltar para o menu principal pressione o botão "STOP"

3.3. AJUSTE DO EQUILÍBRIO DE PISTAS

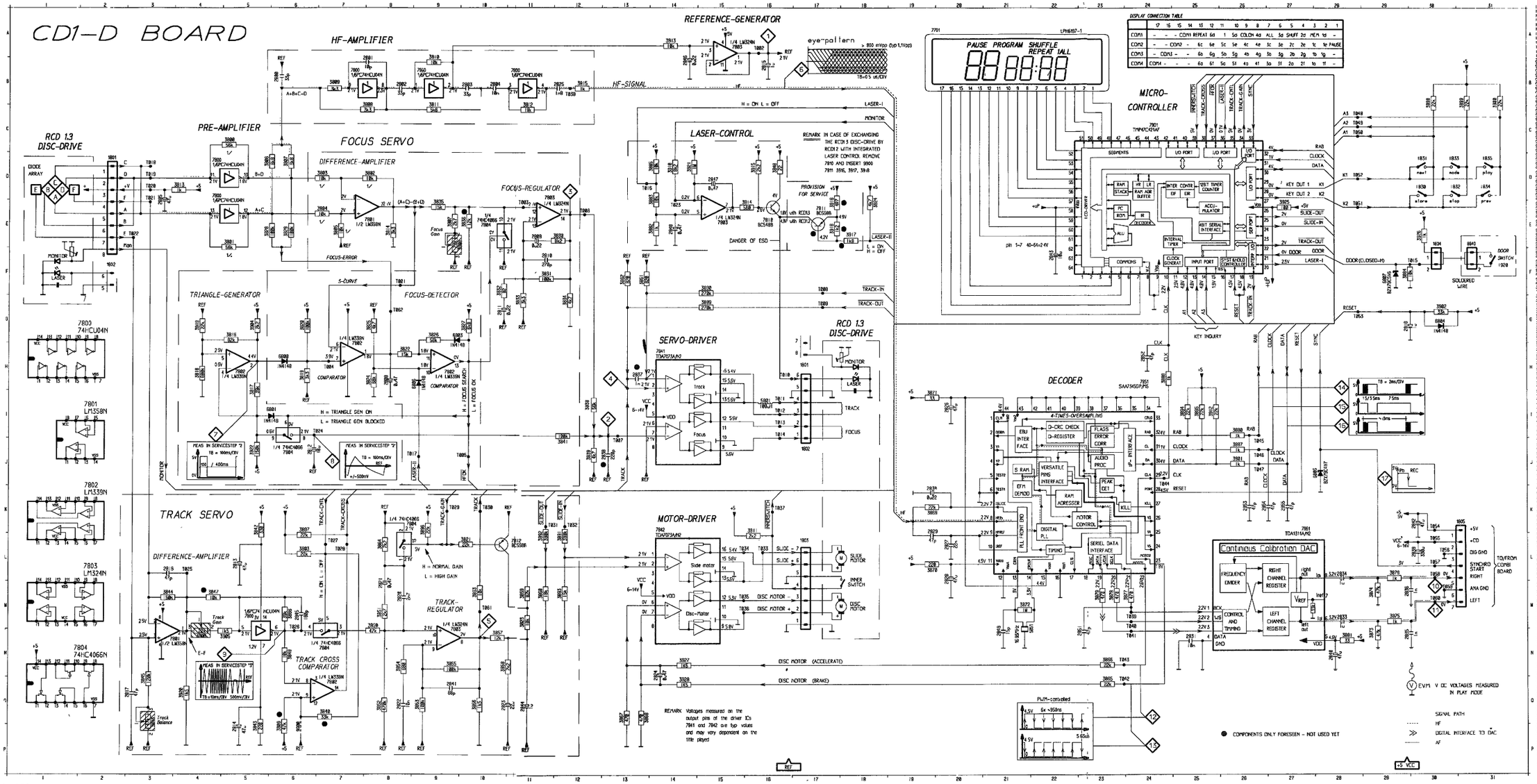
Finalidade: Verificar/ajustar o equilíbno de pistas

- O display apresenta *"3"*
- A regulagem de velocidade é ligada e o motor do disco começa a girar
- Os servos radial e do elemento deslizante ainda estão desligados. O pickup óptico está parado Devido à excentricidade do disco o raio laser cruza várias pistas por rotação do disco Os sinais máximos positivo e negativo de erro de pista podem ser medidos na saída do amplificador de pistas → ponto de medição "9" Para obter um sinal de saída simétnco podem ser compensadas as tolerâncias do arranjo de diodos com o potenciômetro de equilíbrio de pistas
- Pode se dar entrada do teste radial apertando-se o botão "PLAY", para sair do teste de foco e voltar para o menu principal pressione o botão "STOP"

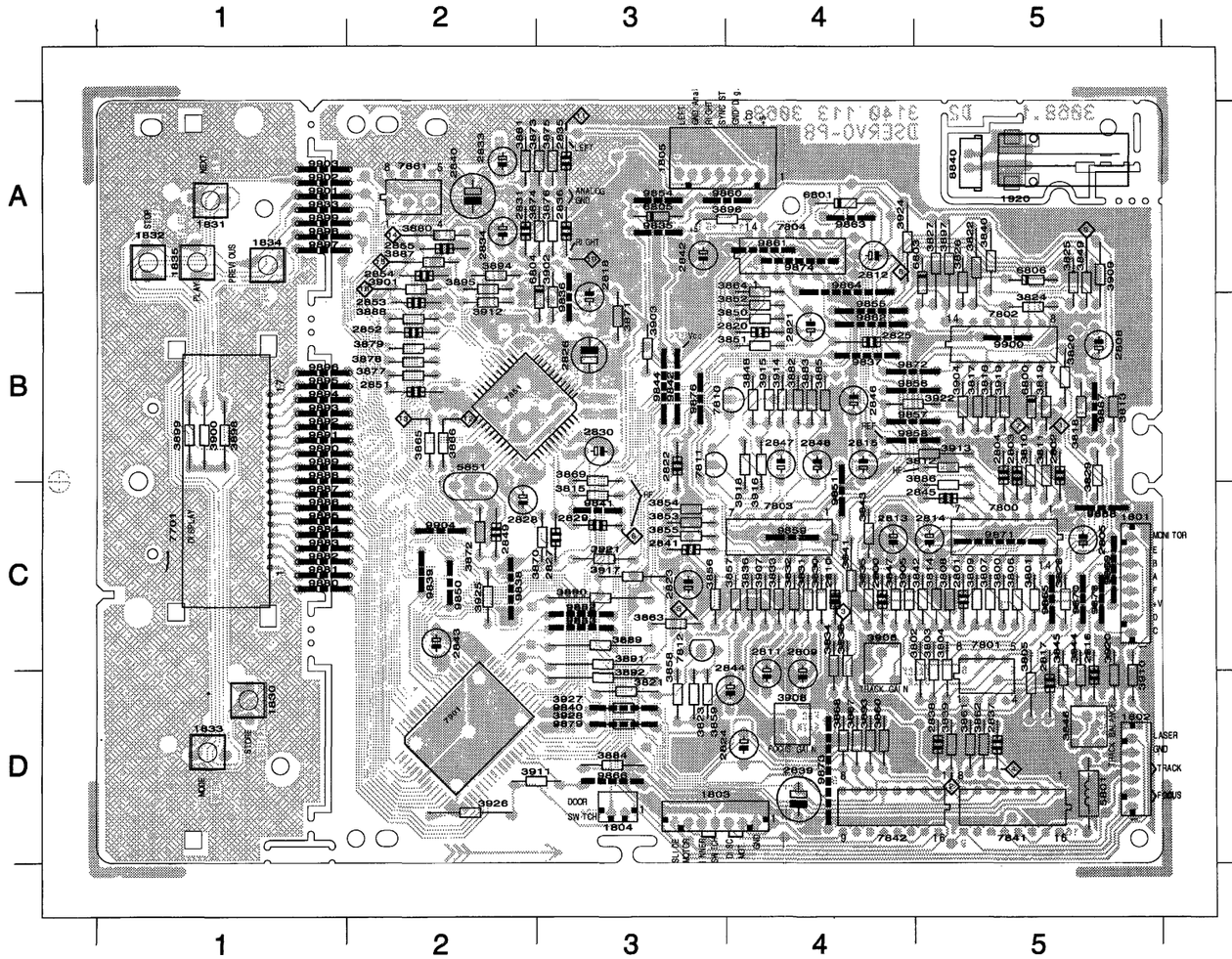
3.4. TESTE RADIAL

Finalidade: Verificar se a alça radial trava e é dado saída de um sinal de áudio

- O display apresenta *"4"*
- É ligada a alça do servo radial, o "mute" é liberado, sendo ouvido um sinal de áudio,
- Para saltar 60 pistas para fora pressione o botão "NEXT"
- Para saltar 60 pistas para dentro pressione o botão "PREV".
- Para sair do teste radial e voltar para o menu principal pressione o botão "STOP".

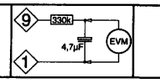

CD1–D BOARD
REFERENCE-GENERATOR
HF-AMPLIFIER
HF-SIGNAL
RCD 1.3 DISC-DRIVE
PRE-AMPLIFIER
FOCUS SERVO
DIFFERENCE-AMPLIFIER
FOCUS-REGULATOR
LASER-CONTROL
REMARK IN CASE OF EXCHANGING THE RCD1.3 DISC-DRIVE BY RCD1.2 WITH INTEGRATED LASER CONTROL REMOVE 7810 AND INSERT 9900
PROVISION FOR SERVICE
DANGER OF ESD
TRIANGLE-GENERATOR
FOCUS-DETECTOR
SERVO-DRIVER
TRACK SERVO
DIFFERENCE-AMPLIFIER
TRACK-REGULATOR
TRACK CROSS COMPARATOR
MOTOR-DRIVER
MICRO-CONTROLLER
DECODER
Continuous Calibration DAC
PAUSE PROGRAM SHUFFLE REPEAT TALL
SOLDERED WIRE
SIGNAL PATH
HF
DIGITAL INTERFACE TO DAC
AF
COMPONENTS ONLY FORESEEN – NOT USED YET
REMARK Voltages measured on the output pins of the driver ICs 7841 and 7842 are typ values and may vary dependent on the title played

CD1-D BOARD - LAYOUT DIAGRAM



1801 C 5	3804 D 5	3872 C 2	7802 B 5	9897 A 1
1802 D 5	3805 D 5	3873 A 3	7803 C 4	9898 A 1
1803 D 3	3806 C 5	3874 A 3	7804 A 4	9899 A 1
1804 D 3	3807 C 5	3875 A 3	7810 B 4	9900 B 5
1805 A 3	3808 C 5	3876 A 3	7811 B 3	9901 A 1
1830 D 1	3809 C 5	3877 B 2	7812 C 3	9902 A 1
1831 A 1	3810 B 5	3878 B 2	7841 D 5	9903 A 1
1832 A 1	3811 B 5	3879 B 2	7842 D 4	9904 C 2
1833 D 1	3812 B 5	3880 A 2	7851 B 2	T001 C 4
1834 A 1	3813 B 5	3881 A 2	7861 A 2	T002 A 4
1835 A 1	3814 C 5	3882 B 4	7901 D 2	T003 A 4
1920 A 5	3815 C 3	3883 B 4	8840 A 5	T004 B 5
2800 C 4	3816 B 5	3884 D 3	9833 A 1	T005 B 5
2801 C 5	3817 B 5	3885 B 4	9835 A 3	T006 C 4
2802 B 5	3818 B 5	3886 C 5	9836 B 3	T007 D 5
2803 B 5	3819 B 5	3887 A 2	9837 B 4	T008 C 2
2804 B 5	3820 B 5	3888 B 2	9838 C 2	T009 C 2
2805 C 5	3821 D 3	3889 C 3	9839 C 2	T010 C 3
2808 B 5	3822 A 5	3890 C 3	9840 D 3	T011 D 5
2809 D 4	3823 D 3	3891 C 3	9841 C 3	T012 D 5
2810 C 4	3824 B 5	3892 D 3	9842 B 3	T013 D 5
2811 D 4	3825 A 5	3893 D 4	9844 B 3	T014 D 5
2812 A 4	3826 A 5	3894 A 2	9850 C 2	T015 C 3
2813 C 4	3827 A 5	3895 A 2	9851 C 4	T016 B 4
2814 C 5	3828 C 5	3896 A 4	9852 C 3	T017 C 3
2815 B 4	3829 B 5	3897 A 5	9853 C 3	T018 C 5
2816 D 5	3830 C 4	3898 B 1	9854 A 3	T019 C 5
2817 D 5	3831 C 4	3899 B 1	9855 B 4	T020 B 5
2818 B 3	3832 C 4	3900 B 1	9856 B 4	T021 D 5
2820 B 4	3833 C 4	3901 A 2	9857 B 4	T022 D 5
2821 B 4	3834 C 4	3902 B 3	9858 B 4	T023 B 4
2822 B 3	3835 C 4	3903 B 3	9859 C 4	T024 A 4
2823 C 3	3836 C 4	3904 B 5	9860 A 4	T025 C 4
2824 D 4	3838 C 4	3905 C 4	9861 A 4	T026 C 5
2825 B 4	3839 D 5	3906 C 4	9862 B 4	T027 B 3
2826 B 3	3840 A 5	3907 C 4	9863 A 4	T028 B 5
2827 C 3	3841 C 4	3908 D 4	9864 B 4	T029 A 4
2828 C 2	3842 C 5	3909 A 5	9865 C 5	T030 D 3
2829 C 3	3843 C 4	3910 D 5	9866 D 3	T031 C 2
2830 B 3	3844 D 5	3911 D 2	9867 B 5	T032 C 2
2831 A 2	3845 D 5	3912 B 2	9868 C 5	T033 D 3
2833 A 2	3846 D 5	3913 B 5	9869 C 5	T034 D 3
2834 A 2	3847 C 4	3914 B 4	9870 C 5	T035 D 4
2835 A 3	3848 B 4	3915 B 4	9871 C 5	T036 D 4
2836 A 3	3849 A 5	3916 B 4	9872 B 4	T037 D 3
2837 D 5	3850 B 4	3917 C 3	9873 D 4	T038 B 4
2838 D 5	3851 B 4	3918 B 4	9874 A 4	T039 A 2
2839 D 4	3852 B 4	3919 B 5	9876 B 3	T040 A 2
2840 A 2	3853 C 3	3920 D 5	9878 C 5	T041 A 2
2841 C 3	3854 C 3	3921 C 3	9879 D 3	T044 B 2
2842 A 3	3855 C 3	3922 B 4	9880 C 1	T045 A 2
2843 C 2	3856 C 3	3924 A 4	9881 C 1	T046 A 2
2844 D 4	3857 C 4	3925 C 2	9882 C 1	T047 B 2
2845 C 5	3858 D 3	3926 D 2	9883 C 1	T048 A 2
2846 B 4	3859 D 3	3927 D 3	9884 C 1	T049 A 2
2847 B 4	3860 D 4	3928 D 3	9885 C 1	T050 A 1
2848 B 4	3861 D 5	5801 D 5	9886 C 1	T051 A 2
2849 C 2	3862 D 5	5851 C 2	9887 C 1	T052 A 2
2851 B 2	3863 C 3	6800 B 5	9888 C 1	T053 B 3
2852 B 2	3864 B 4	6801 A 4	9889 B 1	T054 A 4
2853 B 2	3865 B 2	6803 A 5	9890 B 1	T055 A 3
2854 A 2	3866 B 2	6804 B 3	9891 B 1	T056 B 5
2855 A 2	3867 D 4	6805 A 3	9892 B 1	T057 B 3
3800 C 5	3868 D 4	6806 A 5	9893 B 1	T058 A 3
3801 C 5	3869 C 3	7701 C 1	9894 B 1	T059 A 3
3802 D 5	3870 C 3	7800 C 5	9895 B 1	T060 A 3
3803 D 5	3871 B 3	7801 D 5	9896 B 1	T061 C 3
				T062 B 5

ADJUSTMENT TABLE (RCD1.3D with discrete servo electronic)

CD-PART					
LASER CURRENT					
The trimpot. for adjustment of the laser current is located on the disc drive and has been adjusted in the production line. Therefore for service purpose it is not intended to adjust the laser current. Check only if the HF-signal level is higher than 800mV$_{pp}$.					
TRACK BALANCE					
Service pos. 3 Display shows "3"			3846	Adjust to 0±10mV DC offset	
TRACK GAIN					
Play with Test-Disc 5 track 1	1300 Hz 100 mV$_{rms}$	see Fig. 1	3906		CHX = 50 mV/DIV CHY = 50 mV/DIV Adjust according to FIG.3
FOCUS GAIN					
Play with Test-Disc 5 track 1	1200 Hz 500 mV$_{rms}$	see Fig. 2	3908		CHX = 200 mV/DIV CHY = 200 mV/DIV Adjust according to FIG.3

Test disc 5

REMARK: In case the discdrive or the optical pickup has been exchanged, always adjust *TRACK BALANCE, TRACK GAIN* and *FOCUS GAIN*.

FIG 1

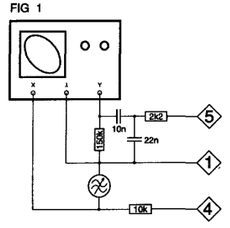


FIG 2

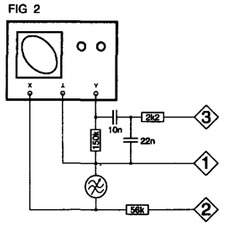
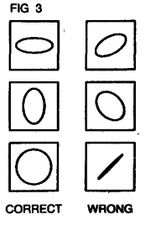
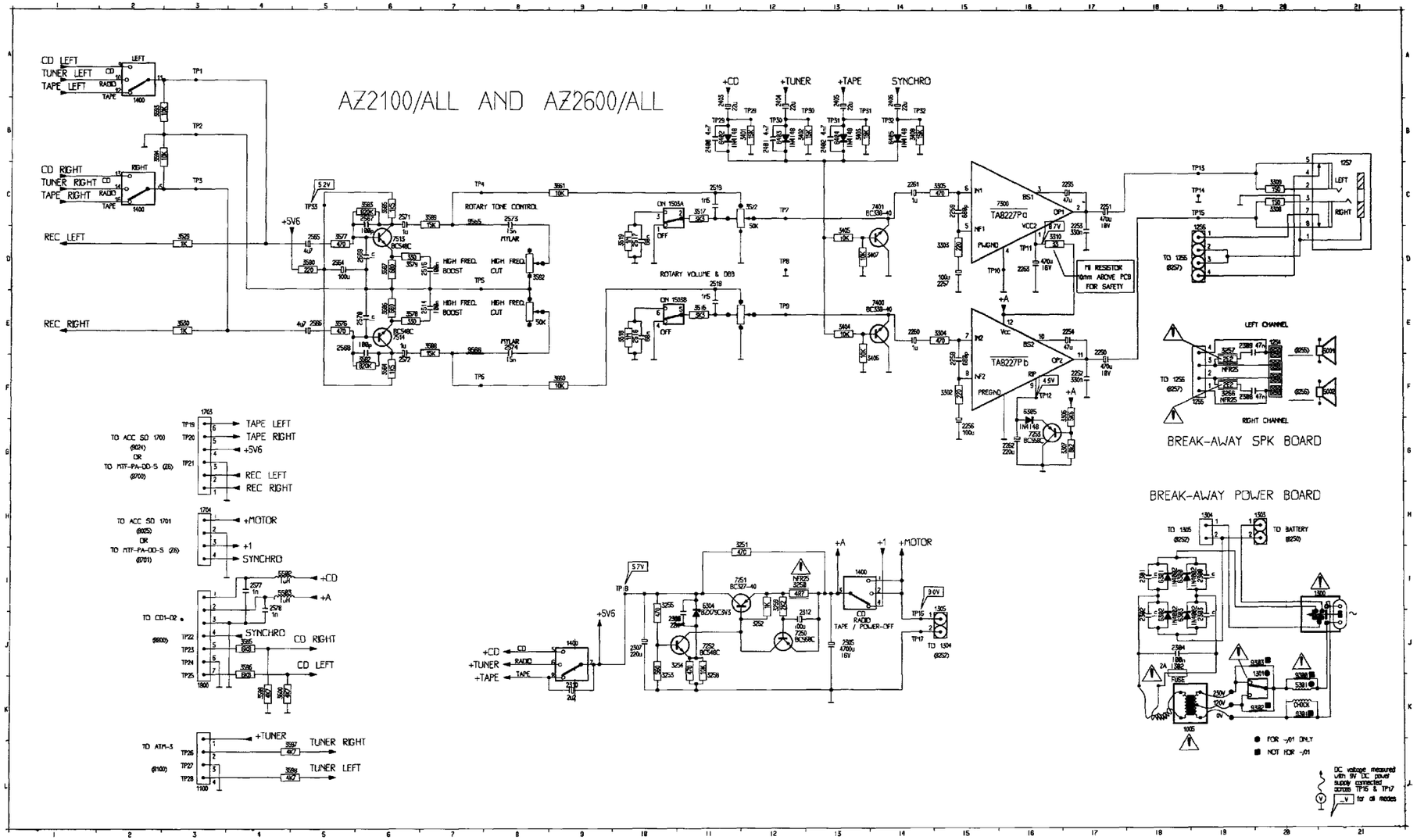


FIG 3



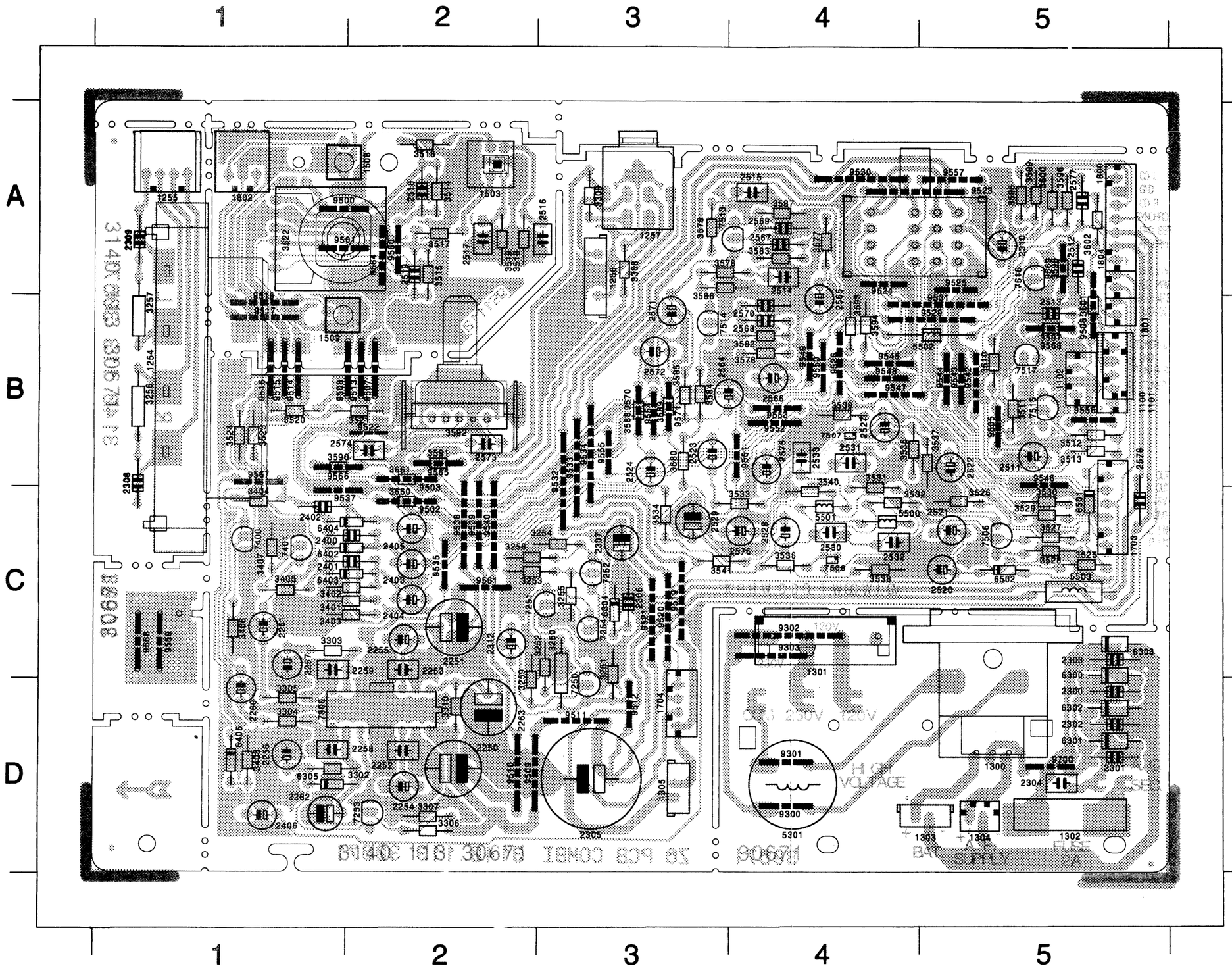
COMBI BOARD - CIRCUIT DIAGRAM



FILE LOCATION /usr/tmp/5140/113/50571/01/c50/AZ2100.scm

1005	K19	2307	J10	3401	B12	5301	K20
1005c	K19	2308	F19	3402	B12	5502	I4
1100	L3	2309	E19	3403	B13	5503	I4
1254	E20	2310	K9	3404	E13	6300	I18
1254b	F20	2312	J12	3405	D13	6301	I18
1254c	F20	2400	B11	3406	F14	6302	J18
1254d	F20	2401	B12	3407	D14	6303	J18
1255	F19	2402	B13	3408	B14	6304	I11
1256	D19	2403	B11	3516	E11	6305	F16
1257	C21	2404	B12	3517	C11	6402	B11
1300	I20	2405	B13	3518	E10	6403	B12
1300b	I21	2406	B14	3519	D10	6404	B13
1300c	J20	2514	E7	3522	C12	6405	B14
1300d	I20	2515	D7	3522b	E11	7250	J13
1300e	I21	2516	E10	3522c	E11	7251	I11
1301	K20	2517	D10	3522d	E12	7252	J11
1302	J18	2518	D11	3522e	E11	7253	G16
1303	H19	2519	C11	3522f	C11	7300	E15
1304	H19	2564	D5	3522g	C12	7300	C15
1305	I15	2565	D5	3529	D3	7400	E14
1400	C2	2566	E5	3530	E3	7401	C14
1400	B2	2567	C6	3576	E5	7513	D6
1400	J9	2568	E5	3577	D5	7514	E6
1400	I13	2569	D6	3578	E6	9300	K20
1503	C10	2570	E5	3579	D6	9301	K20
1503	E11	2571	C6	3580	D5	9302	K20
1703	F3	2572	F6	3582	F6	9303	J20
1704	H3	2573	C8	3583	C6	9565	C7
1800	K3	2574	E8	3584	F6	9566	E7
2250	E17	2577	I4	3585	C6		
2251	C17	2578	I4	3586	E6		
2252	F17	3250	I12	3587	D6		
2253	D17	3251	H12	3588	E7		
2254	E17	3252	J12	3589	C7		
2255	C17	3253	K10	3592	D8		
2256	G15	3254	J11	3592b	D8		
2257	D15	3255	I10	3592c	D8		
2258	F15	3256	F19	3592d	E8		
2259	C15	3257	E19	3592e	E8		
2260	E14	3258	K11	3592f	E8		
2261	C14	3259	I12	3593	B2		
2262	G16	3302	F15	3594	B2		
2263	D16	3303	D15	3595	J4		
2300	I19	3304	E15	3596	J4		
2301	I18	3305	C15	3597	L5		
2302	J18	3306	F17	3598	L5		
2303	J19	3307	G17	3599	K4		
2304	J18	3308	C20	3600	K4		
2305	J13	3309	C20	3660	F9		
2306	J10	3310	D16	3661	C9		

COMBI BOARD - LAYOUT DIAGRAM



1005a D 4	2305 D 3	3309 A 3	3602 A 5	9532
1005b D 4	2306 C 3	3310 D 2	3660 C 2	9533
1005c D 4	2307 C 3	3401 C 2	3661 B 2	9534
1100 B 5	2308 A 1	3402 C 2	5301 D 4	9535
1101 B 5	2309 B 1	3403 C 2	5500 C 4	9537
1102 B 5	2310 A 5	3404 C 1	5501 C 4	9538
1254 B 1	2312 C 2	3405 C 1	5502 B 5	9539
1254b B 1	2400 C 2	3406 C 1	5503 C 5	9540
1254c B 1	2401 C 2	3407 C 1	6300 C 5	9542
1254d A 1	2402 C 1	3408 D 1	6301 D 5	9543
1255 A 1	2403 C 2	3510 B 5	6302 D 5	9544
1256 A 3	2404 C 2	3511 B 5	6303 C 5	9545
1257 A 3	2405 C 2	3512 B 5	6304 C 3	9546
1300 D 5	2406 D 1	3513 B 5	6305 D 1	9547
1301 C 4	2511 B 5	3514 A 2	6402 C 2	9548
1302 D 5	2512 A 5	3515 A 2	6403 C 2	9549
1303 D 5	2513 B 5	3516 A 2	6404 C 2	9550
1304 D 5	2514 A 4	3517 A 2	6405 D 1	9551
1305 D 3	2515 A 4	3518 A 2	6501 C 5	9552
1400 A 4	2516 A 3	3519 A 2	6502 C 5	9553
1401 A 5	2517 A 2	3520 B 1	7250 D 3	9554
1402 A 4	2518 A 2	3521 B 2	7251 C 3	9555
1403 A 5	2519 A 2	3522 A 1	7252 C 3	9556
1404 A 4	2520 C 5	3523 B 1	7253 D 2	9557
1405 A 5	2521 C 5	3524 B 1	7254 C 3	9558
1406 A 4	2522 B 5	3525 C 5	7300 D 2	9559
1407 A 5	2523 B 3	3526 C 5	7400 C 1	9560
1408 A 4	2524 B 3	3527 C 5	7401 C 1	9561
1409 A 5	2527 B 4	3528 C 5	7506 C 5	9564
1410 A 4	2528 C 4	3529 C 5	7513 A 4	9565
1411 A 5	2529 C 3	3530 C 5	7514 B 3	9566
1412 A 4	2530 C 4	3531 C 4	7515 B 5	9567
1413 A 5	2531 B 4	3532 C 4	7516 A 5	9568
1414 A 4	2532 C 4	3533 C 4	7517 B 5	9569
1415 A 5	2533 B 4	3534 C 3	9300 D 4	9570
1416 A 4	2564 B 3	3535 B 4	9301 D 4	9571
1417 A 4	2565 B 4	3536 C 4	9302 C 4	9700
1418 A 5	2566 B 4	3537 B 5	9303 C 4	
1419 A 5	2567 A 4	3538 C 4	9500 A 1	
1503 A 2	2568 B 4	3539 B 4	9501 A 1	
1508 A 1	2569 A 4	3540 C 4	9502 C 2	
1509 B 1	2570 B 4	3541 C 3	9503 B 2	
1703 C 5	2571 B 3	3576 B 4	9505 B 5	
1704 D 3	2572 B 3	3577 A 4	9506 B 5	
1800 A 5	2573 B 2	3578 A 3	9507 B 2	
1801 A 5	2574 B 2	3579 A 3	9508 B 2	
1802 A 1	2575 B 4	3580 B 3	9509 D 2	
1804 A 5	2576 C 4	3582 B 4	9510 D 2	
2250 D 2	2577 A 5	3583 A 4	9511 D 3	
2251 C 2	2578 C 5	3584 B 3	9512 D 3	
2252 D 2	3250 C 3	3585 B 3	9513 B 2	
2253 C 2	3251 C 3	3586 A 3	9514 B 1	
2254 D 2	3252 C 3	3587 A 4	9515 B 1	
2255 C 2	3253 C 2	3588 B 3	9516 B 1	
2256 D 1	3254 C 3	3589 B 3	9517 B 1	
2257 C 1	3255 C 3	3590 B 1	9518 B 1	
2258 D 1	3256 B 1	3591 B 2	9519 C 3	
2259 C 1	3257 B 1	3592 B 2	9520 C 3	
2260 D 1	3258 C 2	3593 B 4	9521 C 3	
2261 C 1	3259 D 2	3594 B 4	9522 B 2	
2262 D 1	3302 D 1	3595 A 5	9523 A 4	
2263 D 2	3303 C 1	3596 A 5	9524 A 4	
2300 D 5	3304 D 1	3597 B 5	9525 A 5	
2301 D 5	3305 D 1	3598 A 5	9526 B 4	
2302 D 5	3306 D 2	3599 A 5	9529 B 5	
2303 C 5	3307 D 2	3600 A 5	9530 A 4	
2304 D 5	3308 A 3	3601 B 5	9531 B 5	

CASSETTE ADJUSTMENT

Adjustment	Cassette	Recorder position			Measure on	Read on	Adjust with	Adjust to
		SK ...	Deck 1	Deck2				
Azimuth	10KHz	Tape	Play	--	1257 H/P Jack	mV meter	Left screw of P head on Deck 1	max. output
		Tape	--	Play	1257	mV meter	Left screw of P. head on Deck 2	L = R
Motor Speed	3150Hz	Tape /Nor speed	Play	--	1257	Wow and flutter meter	3758	**a
		Tape /High speed	Record	Play	1257	Frequency counter	Check only	F = 6KHz ± 0.3KHz

**a The maximum permissible speed deviation is ± 3%.
Morever, the wow and flutter value can be read

LISTA DE PEÇAS MECÂNICAS DO DECK (CDS-83WP)

POS.	CÓDIGO	DESCRIÇÃO
	4822 691 10481	**TAPE DECK (Montado)**
010	4822 528 70849	Suporte p/ Rolo Pressor
011	4822 528 70695	Rolo Pressor
074	4822 403 30792	Alavanca EJECT
106	4822 358 31125	Correia grande
107	4822 358 31124	Correia pequena
110	4822 278 90663	Chave p/ ligar o motor
111	4822 249 30218	Cabeça REC/PLAY
112	4822 249 40306	Cabeça Apag.
113	4822 249 30218	Cabeça REC/PLAY
115	4822 361 21656	Motor
116	4822 528 81493	Polia do Motor

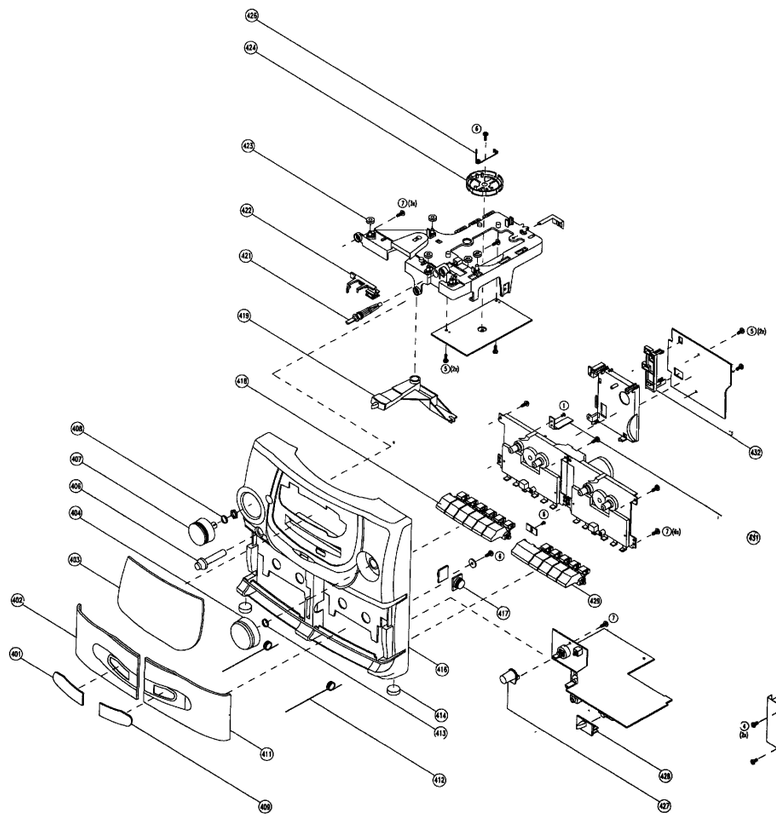
Obs. : As peças relacionadas acima são as únicas disponíveis para reposição.

MECHANICAL PARTSLIST - CABINET

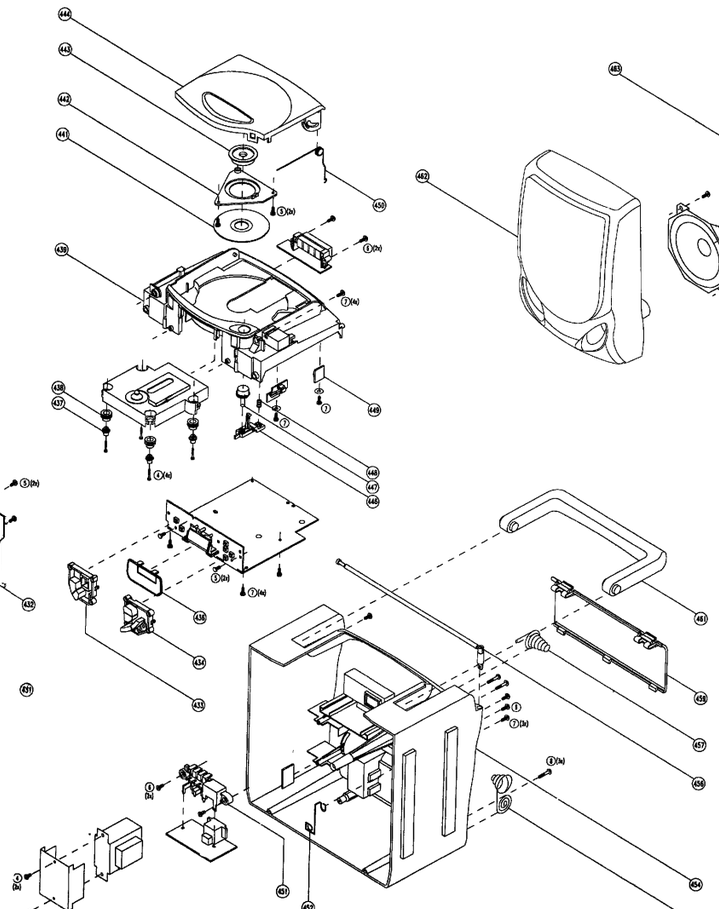
401	4822 381 11695	Lens-Cassette Left	437	4822 532 61104	Distance Holder
402	4822 443 10203	Door-Cassette (L)	441	4822 466 93464	Disc Plastic
403	4822 381 11694	Lens-CD (For -/01/10)	443	4822 532 12412	Pressure Ring Assy
			444	4822 443 10181	Door-CD
404	4822 410 10321	Knob Tuning	446	4822 402 10132	Lever Eject
406	4822 410 10268	Knob Treble	447	4822 410 10267	Knob-Open
407	4822 410 10262	Knob Volume	448	4822 492 11058	Spring Eject
408	4822 492 51374	Ring	449	4822 529 10322	Damper Assy
409	4822 381 11696	Len-Cassette Right	450	4822 492 52332	Spring CD
411	4822 443 10204	Door-Cassette (R)	451	4822 404 10881	Bracket Power
412	4822 492 71143	Spring	452	4822 492 11059	Spring Wire Aerial
413	4822 492 51374	Ring	453	4822 492 51733	Spring Compression
414	4822 462 10671	Rubber Foot	456	4822 303 30298	Antenna Telescopic
416	4822 459 04106	Cabinet Front	457	4822 492 51961	Spring Compression
417	4822 529 10322	Damper Assy	458	4822 535 10254	Catch
418	4822 410 10299	Knob Cassette (L)	459	4822 423 41266	Door Battery
419	4822 410 10322	Knob Band	461	4822 498 10515	Handle
421	4822 535 91958	Spindle	462	4822 459 04085	Cab Speaker Front
422	4822 450 10086	Pointer	463	4822 402 10131	Bracket Speaker
423	4822 528 80907	Pulley (x5)	464	4822 426 10081	Cab Speaker Rear Left
424	4822 528 40208	Drum	466	4822 402 10133	Cord Winder
426	4822 492 40854	Torsion Spring	467	4822 459 04085	Cab Speaker Front
427	4822 410 10269	Knob DBB	468	4822 402 10131	Bracket Speaker
428	4822 410 10264	Knob Mode	469	4822 426 10082	Cab Speaker Rear Right
429	4822 410 10301	Knob Cassette (R)	471	4822 402 10133	Cord Winder
431	4822 492 11061	Spring Recording			
432	4822 402 10126	Lever Recording		4822 321 10249	Cabo de Rede
433	4822 410 10266	Buttonset Mode		4822 691 30345	CDM - **RCD1.3D**
434	4822 410 10265	Buttonset Play		4822 691 10481	TAPE DECK - **CDS-83WP**
436	4822 381 11685	Window-LCD			

Obs. : As **peças** relacionadas acima, são as **únicas** para **reposição.**

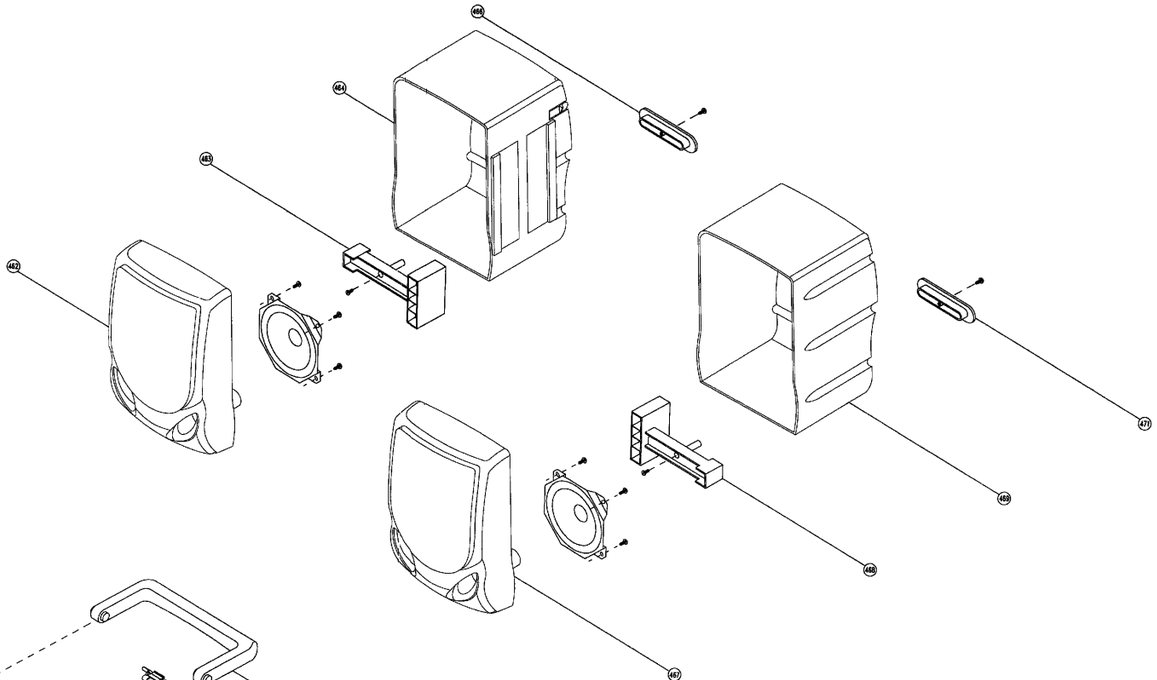
EXPLODED VIEW DIAGRAM - CABINET

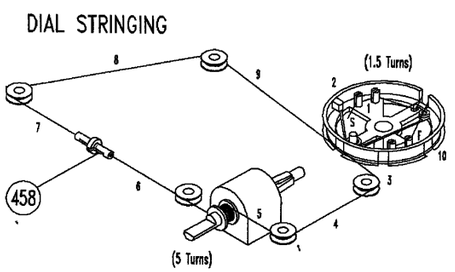


16-1



16-2





16-3

POS.	CÓDIGO	DESCRIÇÃO
		DIVERSOS
1840	4822 691 30345	**C D M** - RCD1 3D DISC DRIVE
	4822 691 10481	**TAPE DECK** - CDS-83WP
2	4822 256 90463	SUPORTE P/ BARRA DE FERRITE
4	4822 522 32451	ENGRENAGEM
6	4822 522 32453	ENGRENAGEM
7	4822 492 51979	MOLA DE COMPR
8	4822 492 63941	MOLA (MOTOR)
9	4822 492 63942	MOLA (AXLES)
87	4822 532 61104	ESPAÇADOR
90	4822 404 10886	SUPORTE, STEEL
101	4822 402 10126	**ALAVANCA DE GRAVAÇÃO**
104	4822 492 11061	**MOLA DE GRAVAÇÃO**
1001	4822 218 30768	LASER UNIT OPTIC **PICKUP** RCD1 3
1003	4822 361 21113	MOTOR DC <=37.5 SERVO MOTOR ASSY
1004	4822 276 12163	CHAVE
1005	4822 146 10397	**TRANSFORMADOR DE REDE 110V / 220V**
1100	4822 277 21698	CHAVE "BAND AM/FM"
1201	4822 526 10176	BAR DE FERRITE
1254	4822 267 31176	CONECTOR P/ FALANTES YKD21-0026B
1257	4822 267 31468	SOQUETE P/ FONE DE OUVIDO
1300	4822 265 20287	CONECTOR DE REDE
1301	4822 272 10366	**CHAVE SELETORA DE VOLT.** HXW0350-01-500
1302	4822 070 32002	FUSÍVEL 2,0 A
1400	4822 277 30689	CHAVE DE FUNÇÕES (CD/TUNER/TAPE)
1503	4822 276 12848	CHAVE P/ BOTÃO DE VOLUME & DBB
1707	4822 277 11504	CHAVE GRAVAÇÃO (PLAY/REC) RSD-62D01N-TA
1830	4822 276 13114	CHAVE TACT, "STORE"
1831	4822 276 13114	CHAVE TACT, "NEXT"
1832	4822 276 13114	CHAVE TACT, "STOP"
1833	4822 276 13114	CHAVE TACT, "MODE"
1834	4822 276 13114	CHAVE TACT, "PREV "
1835	4822 276 13114	CHAVE TACT, "PLAY"
1820	4822 276 13625	CHAVE, PUSH BU , "DOOR"
7701	4822 130 91335	**DISPLAY**, LCD LPH6197-1
		RESISTORES
3101	4822 100 20167	TRIMP 50KΩ 30% LIN 0,1W
3522	4822 102 10447	POTENC 50KΩ x 2 (VOLUME)
3592	4822 115 10161	POTENC 50KΩ / 50mW
3758	4822 100 20165	POTENC 500Ω
3846	4822 100 11392	TRIMP de 47KΩ p/ TRACK/BALANCE do CD
3906	4822 100 11213	TRIMP de 22KΩ p/ TRACK/GAIN do CD
3908	4822 100 11213	TRIMP de 22KΩ p/ FOCUS/GAIN do CD
		FALANTES
5001	4822 240 10094	LOUDSPEAKER RD102 4Ω 2W5
5002	4822 240 10094	LOUDSPEAKER RD102 4Ω 2W5
		BOBINAS
5101	4822 157 70513	FM - ant
5102	4822 157 70731	AM - ant
5104	4822 156 30947	FM - osc
5105	4822 157 71145	AM - osc
5106	4822 157 70499	IFT - AM
5107	4822 242 81154	FILTRO, CERAMIC KMFC5058-Z
5108	4822 156 11146	IFT - AM
5301	4822 157 71285	400µH
5502	4822 157 51195	1µH
5503	4822 157 51195	1µH
5701	4822 157 10371	COIL
5801	4822 157 50964	100µH
5851	4822 242 80997	FILTRO CER CST16,93MXW040-TF01
		I.C. 's
7101	4822 209 32746	TEA5711T/N2
7300	4822 209 31544	TA8227P
7711	4806 209 87683	AN7316S
7712	4806 209 87683	AN7316S
7800	5322 209 11323	74HCU04N (6 X INVERTER)
7801	4806 209 87684	LM358N (2 X OP-AMP)
7802	4822 209 80631	LM339N (4 X OP-AMP.)VOLT./CU
7803	4806 209 87135	LM324N (4 X OP-AMP.)
7804	4822 209 11529	74HC4066N (4 X SWITCH)
7841	4806 209 87707	TDA7073A/N2 (DRIVER)
7842	4806 209 87707	TDA7073A/N2 (DRIVER)
7851	4806 209 87701	SAA7345GP/M5 (DECODER)
7861	4822 209 32421	TDA1311A/N2 (DAC)
7901	4822 209 33612	TMP47C421AF/VA27

POS.	CÓDIGO	DESCRIÇÃO
		CAPACITORES
2103	4822 124 40248	ELCO 10µF / 63V
2104	4822 124 40248	ELCO 10µF / 63V
2106	4822 125 50881	**VARIÁVEL TUNING 2XAM / 2XFM**
2112	4822 124 41397	ELCO 47µF / 25V
2113	4822 126 13581	ELCO 0,22µF / 50V
2115	4822 124 40246	ELCO 4,7µF / 63V
2117	4822 124 40242	ELCO 1µF / 63V
2118	4822 124 40242	ELCO 1µF / 63V
2120	4822 124 40242	ELCO 1µF / 63V
2121	4822 124 40239	ELCO 0,47µF / 63V
2122	4822 124 40239	ELCO 0,47µF / 63V
2254	4822 124 41397	ELCO 47µF / 25V
2255	4822 124 41397	ELCO 47µF / 25V
2256	4822 124 41584	ELCO 100µF / 10V
2257	4822 124 41584	ELCO 100µF / 10V
2260	4822 124 40242	ELCO 1µF / 63V
2261	4822 124 40242	ELCO 1µF / 63V
2262	4822 124 80144	ELCO 220µF / 25V
2263	4822 124 23794	ELCO 470µF / 16V
2305	4822 124 41456	ELCO 4700µF / 16V
2307	4822 124 40181	ELCO 220µF / 10V
2310	4822 124 41576	ELCO 2,2µF / 50V
2312	4822 124 41584	ELCO 100µF / 10V
2403	4822 124 41596	ELCO 22µF / 50V
2404	4822 124 41596	ELCO 22µF / 50V
2405	4822 124 41596	ELCO 22µF / 50V
2406	4822 124 41596	ELCO 22µF / 50V
2564	4822 124 41584	ELCO 100µF / 10V
2565	4822 124 40246	ELCO 4,7µF / 63V
2566	4822 124 40246	ELCO 4,7µF / 63V
2571	4822 124 40242	ELCO 1µF / 63V
2572	4822 124 40242	ELCO 1µF / 63V
2703	4822 124 41397	ELCO 47µF / 25V
2704	4822 124 41596	ELCO 22µF / 50V
2705	4822 124 40246	ELCO 4,7µF / 63V
2706	4822 124 41397	ELCO 220µF / 10V
2708	4822 124 41397	ELCO 220µF / 10V
2709	4822 124 80144	ELCO 220µF / 25V
2710	4822 124 41397	ELCO 47µF / 25V
2712	4822 124 41397	ELCO 47µF / 25V
2713	4822 124 80144	ELCO 220µF / 25V
2714	4822 124 41397	ELCO 47µF / 25V
2715	4822 124 41596	ELCO 22µF / 50V
2716	4822 124 41596	ELCO 22µF / 50V
2718	4822 124 41397	ELCO 47µF / 25V
2719	4822 124 41397	ELCO 47µF / 25V
2763	4822 124 41584	ELCO 100µF / 10V
2805	4822 124 40433	ELCO 47µF / 25V
2808	4822 124 40768	ELCO 0,47µF / 100V
2809	4822 126 13581	ELCO 0,22µF / 50V
2811	4822 126 13581	ELCO 0,22µF / 50V
2812	4822 124 40248	ELCO 10µF / 63V
2813	4822 124 40433	ELCO 47µF / 25V
2814	4822 124 40433	ELCO 47µF / 25V
2815	4822 124 40242	ELCO 1µF / 63V
2818	4822 124 40758	ELCO 1µF / 100V
2821	4822 124 40768	ELCO 0,47µF / 100V
2823	5322 124 41431	ELCO 22µF / 35V
2824	4822 124 40768	ELCO 0,47µF / 100V
2826	4822 124 40433	ELCO 47µF / 25V
2826	4822 124 40433	ELCO 47µF / 25V

POS.	CÓDIGO	DESCRIÇÃO
		CAPACITORES
2830	4822 126 13581	ELCO 0,22µF / 50V
2833	4822 124 40756	ELCO 1µF / 100V
2834	4822 124 40756	ELCO 1µF / 100V
2839	4822 124 40849	ELCO 330µF / 16V
2840	4822 124 40849	ELCO 330µF / 16V
2842	4822 124 40433	ELCO 47µF / 25V
2843	4822 124 40248	ELCO 10µF / 63V
2844	4822 124 40756	ELCO 1µF / 100V
2846	4822 126 13581	ELCO 0,22µF / 50V
2847	4822 124 40239	ELCO 0,47µF / 63V
2848	4822 124 40239	ELCO 0,47µF / 63V
		DIODOS
6101	4806 130 37078	1N4148
6102	4806 130 37078	1N4148
6300	4806 130 37076	1N4002
6301	4806 130 37076	1N4002
6302	4806 130 37076	1N4002
6303	4806 130 37076	1N4002
6304	4822 130 32806	BZX79-F3V3
6305	4806 130 37078	1N4148
6402	4806 130 37078	1N4148
6403	4806 130 37078	1N4148
6404	4806 130 37078	1N4148
6405	4806 130 37078	1N4148
6703	4806 130 37078	1N4148
6800	4806 130 37078	1N4148
6801	4806 130 37078	1N4148
6803	4806 130 37078	1N4148
6804	4806 130 37078	1N4148
6805	4822 130 34174	BZX79-C4V7
6806	4806 130 37078	1N4148
6807	4806 130 47049	BZX79-C5V6
		TRANSISTOR
7250	4806 130 47050	BC556C
7251	4806 130 47313	BC327-40
7252	4806 130 47042	BC548C
7253	4806 130 47050	BC556C
7400	4806 130 47332	BC338-40
7401	4806 130 47332	BC338-40
7513	4806 130 47042	BC548C
7514	4806 130 47042	BC548C
7701	4822 130 91335	**DISPLAY**, LCD LPH6197-1
7704	4806 130 47228	BC337-25
7720	4806 130 47042	BC548C
7721	4806 130 47042	BC548C
7810	4806 130 47041	BC548B
7812	4806 130 47050	BC558B

Obs: Materias Standard como capacitores, resistores e etc, devem ser os de uso normal em nossa linha de aparelhos.